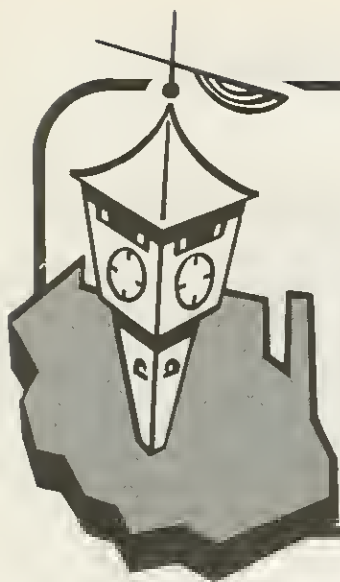


UNIVERSITY OF WISCONSIN - STOUT
UNDERGRADUATE BULLETIN
1974-1975





Catalog of Courses 1974-75

University of Wisconsin-Stout
Menomonie, Wisconsin 54751

AN EQUAL OPPORTUNITY UNIVERSITY

For information concerning the University or any of
its programs, write to:

Director of Admissions, University of Wisconsin-
Stout, Menomonie, Wis. 54751

Volume 59

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ACCREDITATION

North Central Association of
Colleges and Secondary Schools
National Council for Accreditation of
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GENERAL INFORMATION

TO NEW STUDENTS

At least part of the information you need in reaching your decision to attend Stout can be found on the following pages. The catalog places primary emphasis on the major programs offered by the University and descriptions of the courses within those programs. Fee, financial aid and housing information is also explained. Other students have found campus visits and discussions with staff members extremely helpful in reaching their decision. If possible, write or call for an appointment to visit the campus. The Admissions office number is 715/232-1231.

THE UNIVERSITY

Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1893 by James H. Stout. A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an education broader than that offered by the traditional curriculum. Since its

founding, Stout has gained a position of national leadership in industrial, vocational, and home economics education. Its programs in those fields are among the largest in the world. Although Stout is a career oriented university, it has had the foresight to make the humanities and social sciences key parts of the total educational program.

THE FACULTY

On most campuses, expertise in teaching is no longer the concern only of the faculty and administration—students are equally concerned. Because Stout has specialized in certain areas, a staff comprised of individuals nationally recognized in their fields has been developed. All classes are taught by the faculty with the exception of several laboratory courses. The student-teacher ratio is about 14-1 overall. Of a staff of 400, a high percentage holds doctorates while others hold special degrees in their fields. One of the fine traditions at Stout has been the faculty's commitment to provide extra help to students.

FACILITIES

The University's instructional programs are supported by some of the most modern and well-equipped facilities to be found anywhere. To keep pace with growing enrollment and the increased needs of education, more than \$15 million in classroom, laboratory and library construction has been completed in the last five years. Sophisticated audio-visual and computer centers serve the entire campus. An open laboratory policy encourages out-of-class study, research and experimentation. The 113-acre campus is adjacent to the central business district and Lake Menominee. Media Retrieval Services (The Robert L. Pierce Library) has a print collection of over 135,000 volumes; nearly 217,000 microforms of various types; subscribes to over 1,870 periodicals; and circulates approximately 1,500 films, tapes, records and slides.

STUDENTS

In terms of enrollment, Stout is not a local or state school. Its 5,000 students come from every state in the nation and, at last count, 40 foreign countries. Students have a major voice in the affairs of the University and sit on important University committees. Besides regular and informal meetings with students, the University's Chancellor has "an open door policy." More than \$250,000 in student activity funds are administered by student government. There are more than 100 student clubs and organizations on campus, including national fraternities and sororities.

THE COMMUNITY

For many reasons, students like Menomonie and the surrounding area. Lakes, rivers and hills enhance the countryside. The area is in the heart of Wisconsin's vacationland with every winter and summer sport near at hand. Major entertainment and cultural attractions are available on campus and in nearby (60 miles) Minneapolis-St. Paul. Students comprise about a third of Menomonie's 13,000 population.

ADMISSIONS

Application for admission forms may be obtained by writing the Director of Admissions at Stout or from any Wisconsin or Minnesota high school guidance office. Although there are general guidelines, each applicant is considered on an individual basis.

NEW FRESHMEN

High School students should apply for admission early in their senior year. Applications are accepted by the University as early as Oct. 1. There is no deadline for applications. However, a student who applies early may gain some advantage in securing housing and financial aid. High School graduates who rank in the upper three-fourths of their class are admitted in good standing. High school graduates who rank in the lower one-quarter and have an ACT Standard Composite score of 17 or more also are admitted in good standing. (SAT or CQT may be substituted for ACT.) High School graduates who do not meet those requirements are admitted conditionally and are encouraged to carry a lighter load and participate in special programs provided for them. The Director of Admissions has the authority to accept any person who is not a high school graduate if factors indicate an ability to profit from a university education.

Deferred Admission Students who desire to work for a few years or enter military service may process an admission application now to gain contact with Stout in the event an opportunity for part-time study arises elsewhere. This will enable the student to check on the transferability of course work and, at the same time, keep posted on pertinent changes at Stout.

TRANSFER STUDENTS

Transfer students should apply for admission and forward an official transcript early in the last semester at their present college. Tentative admission can be given after a preliminary evaluation of transfer credits. An early application for admission offers the opportunity for pre-registration for classes and financial aid clearance. Normally, students with an overall "C" average at their previous institution(s) can be admitted. Students with less than a "C" average can be admitted under certain circumstances but should consult with the Director of Admissions for an evaluation.

College Parallel Program Credits for the first two years of college work satisfactorily completed in college parallel programs will normally be accepted at Stout. (In Wisconsin, these are VTAE programs at Madison, Milwaukee and Rhinelander.) Generally, a student may transfer up to one-half the credits required for a degree at Stout, but not more than 72. A student transferring to Stout is expected to complete all program requirements.

Non-College Parallel Program Stout will accept selected credits outside the college parallel program as long as courses involved are part of an Associate Degree program or a direct linkage can be shown between those courses and the student's proposed major area of study at Stout. General education or liberal arts courses taken outside the college parallel program will not usually transfer. However, the student will be given every opportunity to earn credit by examination in those areas. A student transferring from a non-parallel program

must complete an application for admission, forward transcripts and furnish a personal reference form to be completed by the Student Services office at the last institution attended.

ADULT SPECIAL STUDENTS OR VETERANS

Adults may be admitted even though they have not completed high school if scholastic ability is indicated through tests and interviews conducted by the University. Those who expect to enter as adult special students should arrange for tests and an interview with the Director of Admissions well in advance of the desired entrance date. There is a special office on campus to assist the entering veteran. For assistance, write to Stout's Veterans Coordinator.

SPECIAL PROGRAMS

Stout offers students opportunities to earn credits outside the classroom as well as in. Certain programs allow students to earn credit by examination. Field Experience, Independent Study and Mini-sessions should be investigated by students for the purpose of earning credit. These special programs and others are outlined below.

OVERLOAD POLICY

Students are not restricted to the number of credits they may carry. However, students who anticipate carrying an overload are urged to work closely with their advisors. Students may register for a maximum of 18 credits during their initial registration. Once registration is completed, students will be allowed to add credits during the program change period.

INDEPENDENT STUDIES PROGRAM

Many students at Stout design their own courses for credit through the Independent Studies program. The program is open to all students during any enrollment period. Credits are awarded on the basis of expending approximately 40 hours of effort for each credit. After a topic area for an Independent Study has been selected and approved by an appropriate department chairman, a faculty member is then assigned each student as a learning coordinator to counsel and aid the student in achieving his or her desired learning objectives. Applications and additional information are available in the Independent Study-Field Experience office.

FIELD EXPERIENCE PROGRAM

Students are encouraged to obtain part of their college education off the Menomonie campus through the Field Experience program. This program allows a student to receive academic credit for learning related to their major or minor while employed in an approved off-campus field position. Most students use their summers to enroll in this program but part-time work is usually permissible. Application forms for enrollment in the program are available in the Independent Study-Field Experience office.

OFFICE OF CONTINUING EDUCATION

Stout offers one of the largest programs in the state in evening and Saturday morning extension classes. Credits earned through enrollment in these off-campus courses are considered as extension credits (not residence). They are transferable to Stout on the same basis as they are to other colleges and universities. Registration for these courses is completed at the first class meeting by a representative of the University or by the instructor.

CREDIT BY EXAMINATION

Stout has several procedures which permit students to demonstrate their competence through externally and internally developed examinations. External examinations include the college level examination program (CLEP), the United States Armed Forces Institute (USAFI) and the Advanced Placement program. For additional information on these programs, students should contact Stout's Director of Admissions.

INDUSTRIAL WORK EXPERIENCE

A maximum of 24 semester hours of technical credit may be earned through examination by those students who have completed three years of skilled occupational experiences beyond the learning level of a trade. Students with less than this amount (seven years) of experience may request examination in specific technical courses upon presentation of evidence of appropriate work experience in that area. Students desiring credit for skilled occupational experiences should present evidence of the required amount of work to the program director of Vocational Education (Trade and Industry) shortly after registration to allow special program consideration.

MERRILL-PALMER INSTITUTE

Stout carries an affiliation with The Merrill-Palmer Institute in Detroit, a private institution with a program devoted to study of human development and family services with emphasis on the inner city family. Students in any home economics program may make application to study at Merrill-Palmer through the Dean of Home Economics.

SPECIAL SCHOOLS

Many manufacturers offer specialized, short term, technical courses. Some of these are suitable for University credit. Enrollment in any of these programs (if University credit is desired) must be made through Stout's Office of Continuing Education prior to the beginning of the course.

SUMMER SESSION

Stout conducts a 10-week summer session with classes varying in length from one week to eight weeks. Students may pre-register or register each Monday of the week their classes are scheduled to begin. It is possible to earn 10 credits during

the summer session. Because of the large graduate enrollment, practically all graduate courses are offered each summer. The Summer Session Bulletin is available after March 1. A copy will be sent on request. Pre-enrollment is encouraged in April and May.

PIGEON LAKE

The University of Wisconsin System sponsors summer programs at the Pigeon Lake Field Station near Drummond in Bayfield County of northwestern Wisconsin. Station offerings include undergraduate and graduate courses in field biology and in mapping, outdoor education and art. Sessions vary from two to six weeks in length with a variety of biology courses offered on a rotating basis. Credit earned at the Station is accepted as residence credit at Stout. The Field Station is located in a natural outdoor laboratory among the lakes, streams, and forests of relatively unspoiled portions of northern Wisconsin. For additional information, contact Stout's Registrar.

MINI—SESSION

Mini-sessions are special sessions run during University breaks at the end of the first and second semesters. A mini-session is generally 10 class days in length. A student can earn one credit per five days of classroom activity or a maximum of two credits for the session.

THE GRADUATE COLLEGE

The Graduate College is a distinct administrative unit which offers programs served by the course offerings of the Schools of Industry and Technology, Home Economics, Education and Liberal Studies. Master of Science degrees are offered in the following areas: audio-visual communications, guidance, home economics—clothing and textiles, home economics—food science and nutrition, home economics education, industrial education, industrial technology, vocational education and vocational rehabilitation. A Master of Science in Education degree is offered in school psychology. Education Specialist degrees are offered in industrial and vocational education and guidance and counseling. For further information, contact: Dean, Graduate College, UW-Stout.

FINANCIAL INFORMATION

Since the catalog must be prepared far in advance, all fees, room and food rates and other charges are subject to change without notice. Students are expected to pay all fees by dates announced at the time of registration. Failure to pay fees may jeopardize subsequent enrollment. Stout offers an opportunity to pay fees in installments. This program now requires 40 percent at the time of registration and the balance in two equal monthly installments. The fees on the following schedule incorporate the usual student costs such as textbook rental, Student Center, student activity and health fees. However, the schedule does not include lab or material fees charged in some courses or a late registration fee of \$10. Note that fees for freshman and sophomore students (60 credits or less) are less than the junior-senior schedule. The "non-resident" referred to on the schedule is defined as any student who has not been a resident of Wisconsin (or Minnesota) for one year preceding his admission. There is no additional charge for credits taken beyond 12.

SEMESTER COSTS

FRESHMEN - SOPHOMORE

Credits Resident Non-resident

1	\$ 18.75	\$ 66.75
2	41.50	137.50
3	64.25	208.25
4	87.00	279.00
5	111.75	351.75
6	135.50	423.50
7	159.25	495.25
8	183.00	567.00
9	207.75	639.75
10	231.50	711.50
11	255.25	783.25
12	280.00	857.00

JUNIOR - SENIOR

Resident Non-resident

\$ 20.50	\$ 72.25
45.00	148.50
69.50	224.75
94.00	301.00
120.50	379.25
146.00	456.50
171.50	534.25
197.00	611.00
223.50	689.25
249.00	766.50
274.50	834.75
302.00	923.00

DORMITORY/FOOD SERVICE—SEMESTER

Double Room	\$247	19 meals/wk.	\$260
Single Room	\$337	14 meals/wk.	\$248

MINNESOTA STUDENTS

Under a reciprocity agreement approved by Minnesota and Wisconsin, students from Minnesota can attend public universities in Wisconsin and pay resident tuition rather than non-resident tuition.

SENIOR CITIZENS—ADULT

Wisconsin citizens aged 65 and over may audit all classes at Stout free of charge. Others who do not wish to receive credit for courses taken may also audit courses by paying half of the normal fee.

SPECIAL INTEREST—SPLIT PROGRAM STUDENTS

Special interest students and students enrolled in split programs should inquire about the fee structure as it relates to them at the time of registration. Generally, a special interest student is an individual who does not expect to apply the earned credit toward a degree. A split program student is an individual who is enrolled in both graduate and undergraduate courses at the same time.

REFUND ON FEES

Withdrawal refunds are based on the following schedule: First week of classes, 100 percent; second week, 80 percent; third and fourth week, 60 percent. After the fourth week, there is no refund. Refunds for room and food service charges are based on the date of withdrawal.

HOUSING INFORMATION

Residence hall living is a meaningful part of a student's life at Stout. With the help of a professionally trained staff, students achieve their goals through a wide variety of social, educational, and recreational activities. The University provides residence hall accommodations for approximately 2,700 students.

UNIVERSITY REGULATIONS

Freshmen and sophomores (59 credits or less) are required to live in the residence halls. Exceptions are made for veterans, married students, and students living with their parents.

DEPOSITS Residence hall contracts are for the entire academic year. The required housing deposit will reserve a room in one of the residence halls and will be applied against the final payment for the second semester of the academic year. The housing deposit will not be refunded if cancellation is received after July 1. In August, students will be notified of check-in dates.

FOOD SERVICE Students residing in residence halls are required to contract for their meals in the University's two food service facilities, Tainter on the North Campus and The Commons on the South Campus. Two meal contract plans are available.

FURNISHINGS Each room is furnished with two single beds and inner-spring mattresses, dressers, student desks, chairs, study lamps, and bookcases. With the exception of self-contained coffee pots and popcorn poppers, cooking equipment is not permitted.

MARRIED STUDENTS At the present time, Stout has approximately 50 married-student units. These are barracks-type units with two bedrooms, a bath, a kitchen alcove, a living room and limited storage space. Married-student facilities are also available in the community.

MOTOR VEHICLES Do not bring a motor vehicle on campus unless a real need exists. Parking is limited. Registration of all vehicles is required.

INFORMATION Student housing inquiries or requests for additional information should be directed to the University Housing office. Because policy is subject to change without notice, information in the Student or Residence Hall Handbooks and the residence hall contracts more accurately reflect housing and food service policies and fees. See the financial information section for housing and food costs.

FINANCIAL AIDS

Stout's Financial Aids office has a variety of programs available to qualified students. Entering freshmen who are Wisconsin residents may obtain applications for financial aid from guidance counselors. Other freshmen, transfers and continuing students request forms from the Financial Aids office, UW-Stout, Menomonie, Wis. 54751.

Financial aid is awarded according to the student's financial need and academic potential. To assess need the student is asked as a freshman to fill out a Parent's Confidential Statement and the financial aids portion of the admissions application. Continuing students, re-entries, and transfer students must fill out the Parent's Confidential Statement and the Continuing Student Application for

financial aid. On the basis of these statements the Financial Aids office is able to determine the amount of aid to award.

Financial aid must be applied for annually. Generally, it is awarded for the academic year. Applications submitted by Feb. 15 will be given first priority. However, applications are processed and evaluated after that date, depending upon the availability of funds.

To be eligible for most financial aid a student must be admitted to the University and be at least a half-time (8-11 credits) student. Some programs require the student to be full-time (12 or more credits). If a student is eligible and has financial need, he is awarded a financial aid package in which he receives the aid needed in the form of grants, loans, work or a combination.

The following are the various grants, loans and other forms of financial aid available to students at Stout.

BASIC EDUCATIONAL OPPORTUNITY GRANT: The maximum award that can be received under this program is \$1,400, minus the amount that the student and his family can contribute towards the cost of education. Educational costs and the availability of federal funds are also factors in determining the size of the award.

WISCONSIN HIGHER EDUCATION GRANT: A one-year grant for undergraduate Wisconsin freshmen and sophomores that can be up to 67 percent of a student's assessed need.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS: A grant that can continue during the term of enrollment and is based on annual analysis of need. This grant is available to undergraduate U.S. citizens or residents of Trust Territories who are defined under federal regulations as exceptionally needy. This grant has a value of \$200 to \$1,500 per year, not to exceed 50 percent of student's assessed need and must be matched by other awards.

WISCONSIN NATIVE AMERICAN STUDENT ASSISTANCE GRANTS: The grant is available to American Indians who are Wisconsin residents. It is renewable up to five years to students in good standing at the institution attending. The amount of this grant is \$1,500 per academic year and is based on financial need.

BUREAU OF INDIAN AFFAIRS INDIAN GRANT: This grant is available to American Indians. It is renewable up to five years to students in good standing. It is an unspecified amount per academic year based on financial need.

NON-RESIDENT TUITION WAIVER: This remits all or part of non-resident portion of student tuition for a limited number of out-of-state students who show financial need. Scholastic ability is considered. The duration of this waiver is one year.

FOREIGN STUDENT SCHOLARSHIP: This remits all or part of non-resident portion of student tuition for a limited number of full-time foreign students who show financial need. This scholarship is for one year.

MINNESOTA-WISCONSIN RECIPROCITY AGREEMENT: Remits the non-resident portion of student tuition for undergraduate Minnesota residents attending the University of Wisconsin-Stout. Students must reapply each year to Minnesota Higher Education Coordinating Commission, Capital Square, 550 Cedar St., St. Paul, Minn. 55101.

STATE VETERANS EDUCATIONAL GRANTS: This grant reimburses, upon satisfactory completion of courses, cost of fees and textbooks. This is unlimited and is available to veterans and unremarried widows and children of qualified deceased veterans.

EDUCATION AND TRAINING INCENTIVE GRANTS: This grant is available to veterans registering for the first time in a post-secondary educational institution. It is available for one year with a \$200 maximum.

NATIONAL DIRECT STUDENT LOANS: This loan is available to financially needy students who are U.S. citizens or residents of Trust Territories. It is interest-free while the student is enrolled on at least a half-time basis with three percent interest computed annually beginning nine months after student graduates or leaves school. The amount of the loan is up to \$2,500 for undergraduates during the first two years and up to \$5,000 for four years. The repayment period is up to 10 years with up to 100 percent being cancelled for teachers of handicapped students and teachers employed in schools in low income areas.

WISCONSIN STATE LOANS: Are available to residents of Wisconsin who have a satisfactory academic record and show financial need. The amount of this loan is up to \$2,500 per fiscal year and is interest-free until nine months after graduation or termination of university attendance; thereafter, seven percent interest is computed annually with a repayment period of up to 10 years.

GUARANTEED LOAN PROGRAM: Is an interest-free loan until after graduation or student leaves school. Thereafter, seven percent interest is compounded during repayment period of up to 10 years. The loan is in the amount of up to \$2,500 per fiscal year and is available to students with financial need.

STATE VETERANS LOAN: Is available to veterans who are Wisconsin residents and show financial need. It is also available to unremarried widows and children of qualified deceased veterans. It is non-renewable and in the amount of up to \$3,000 repayable at three percent per annum.

COLLEGE WORK-STUDY PROGRAM: Allows up to 40 hours of employment per week with an hourly wage determined by the University. Students must be U.S. citizens or residents of Trust Territories; in good standing with their institution and show exceptional financial need.

UNIVERSITY STUDENT EMPLOYMENT: Is available to students enrolled at Stout with an hourly wage determined by the department employing the student.

SOCIAL SECURITY: Is available to students up to age 22 whose parents are receiving Social Security. This is in varied amounts up to \$160 per month while the student is enrolled full-time at Stout.

FEDERAL-STATE FUNDS FOR VOCATIONAL REHABILITATION: These funds are available to a student doing undergraduate study in vocational rehabilitation. Students must apply for financial aids through the Financial Aids office and then contact their district vocational rehabilitation office.

GRADUATE ASSISTANTS: This is available to graduate students for only one year in an amount up to \$2,600 per academic year.

VIET NAM ERA VETERANS EDUCATION GRANT: This grant is available to Wisconsin Viet Nam era veterans in the amount of \$200 per year for a single veteran and \$400 for a married veteran. The grant is renewable for up to four academic years. The student must be a full-time undergraduate and show financial need.

OTHER SOURCES FOR SCHOLARSHIPS: County organizations, family employers, national scholarship awards, local service organizations, local teacher organizations and industrial corporations. Inquiries should be made directly to the organization.

STUDENT SERVICES

Student Services embraces all of the organized efforts, other than classroom instruction, that are designed to make student life an experience which is social as well as individual, and personal as well as intellectual. It attempts to apply education to all areas of living.

STUDENT ACTIVITIES

More than 100 student organizations and activities are represented on campus. They share a common purpose in providing opportunities which will help meet the extracurricular needs of students. Such diverse interests and organizations as band, dramatics, yearbook, newspaper, forensics, chorus, religion, politics, recreation, fraternities and sororities offer experiences which allow students to continually develop their interests. The University also has a complete recreation and intramural program for men and women.

STUDENT CENTER

The Memorial Student Center features lounges, snack bar, bowling, billiards, coffee house, bookstore and a recreation equipment rental center (camping equipment, canoes, bicycles, etc.).

NEW STUDENT ORIENTATION

A summer orientation and registration program provides new freshmen and their parents an opportunity to become better acquainted with the campus. During these scheduled one-day visits, parents become involved in a variety of orientation activities while students complete registration for the fall semester and receive a class schedule printout. Transfer and re-entry students are invited to join these sessions. During the first few days of the fall semester, new students receive additional help through planned activities.

COUNSELING CENTER

Counselors are available to each University student to assist him in deriving the maximum benefit from his university career. Counseling often provides a means to continue growth in self-understanding and in understanding others. Many

decisions regarding educational, vocational or personal-social choices can more effectively be made with the help of a counselor. Counseling, psychological testing, and an extensive college catalog and vocational information library are available to all students who desire such assistance. Use of the Center is voluntary and is free of charge to Stout students. The vast majority of students using the services of the Center are experiencing "normal" kinds of concerns. Most students in the course of their college experiences will encounter some problems with which they could benefit from the help of an experienced, understanding person. The Center's hours are 8 a.m. to 4:30 p.m., Monday through Friday. Appointments to see a counselor may be made by calling extension 1211, or by directly contacting the Center.

VETERANS SERVICE

Special assistance is available to veterans by the Office of Veteran's Affairs. This office provides veteran students with current information on veteran's affairs, coordinates special educational programs for veterans, provides a counseling service with a coordinated and extensive referral service, and maintains liaison with the Veterans Administration, Department of Veterans Affairs, and the County Veterans Service Officers.

PLACEMENT SERVICE

The University maintains a full-time Career Planning and Placement Service for all students and alumni. Staff members assist students in evaluating abilities and planning for the future. In many job areas, the number of open positions on file in the Placement office far exceeds the number of Stout graduates available to fill them.

INTERCOLLEGIATE ATHLETICS

The athletic program contributes to the total educational program. For the participants it provides general educational values and constitutes a laboratory for those who aspire to participation in coaching. Stout is a member of the Wisconsin State University Athletic Conference and the National Association of Intercollegiate Athletics. The University has varsity teams in baseball, basketball, football, golf, gymnastics, tennis, cross country, swimming, hockey, track and wrestling. A bowling team competes in the Wisconsin State University Bowling League under the sponsorship of the Student Center. The "S" Club is a campus organization for men who have earned letters in intercollegiate sports.

WOMEN'S INTERCOLLEGIATE ATHLETICS

Women's athletics is considered a valuable part of the educational program. The number of sports is ever growing, along with the number of participants. Stout is a member of the Wisconsin Women's Intercollegiate Athletic Association. Teams presently participate in five sports—volleyball, gymnastics, swimming, basketball, and track and field. There is open recreation for women, along with a complete intramural program.

COURSES OF STUDY

Program plans which appear on the following pages should be considered guides to courses and requirements necessary for graduation. Minor changes occur in programs from time to time. These changes are reflected in program guide sheets issued once each year. Entering students must meet the program requirements for graduation listed on the guide sheets—not the requirements listed here—although both will be similar.

SCHOOL OF INDUSTRY AND TECHNOLOGY

Herbert A. Anderson, Ed.D., Dean

Programs:

Business Administration
Industrial Arts Education
Industrial Technology
Technical Education
Vocational Education

BUSINESS ADMINISTRATION

The four-year curriculum leads to a Bachelor of Science degree with a major in General Business Administration. Upon graduation, a student selecting this major would be academically qualified to: operate a small business; secure a position in a large corporate enterprise in the fields of sales, finance or management; or attend a graduate school in Business Administration to prepare for a higher-level position in business or industry.

GENERAL REQUIREMENTS—B. S. DEGREE:

1. Total for graduation ----- 130 credits
 Required in liberal studies ----- 60 credits
 Required in major studies ----- 64 credits
 Electives ----- 6 credits
2. The student must fulfill the English adequacy and speech proficiency requirements.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—60 credits required

Course	Credit
Fine Arts (304-101, 360-153, or 391-232) -----	6
English (326-101 and 102, or 326-111 and 112, and at least one course in literature) -----	12
Mathematics (355-118 or 355-120 or 355-156) -----	4
Personal Health (366-101) -----	1
Physical Education (367-1xx) -----	2
Science (Biology, Chemistry, Physics or a combination) -----	8
Speech (391-100) -----	2
Psychology (479-110) -----	3
Social Science (select from at least three of the following disciplines including at least three credits in History: Anthropology, History, Sociology, or Political Science) -----	12
Electives (Philosophy, Foreign Language or any of the above areas) -----	10

MAJOR STUDIES—64 credits required

309-206 and 207, Principles of Accounting -----	6
320-210 and 320-215, Principles of Economics -----	6
355-121, 354-141 or 354-240 or 241, Mathematics -----	4
150-200, Production Management -----	3
309-245, Business Data Processing -----	3
309-x98, Field Experience -----	2
309-304, Principles of Business Management -----	3
309-318, Business Law -----	3
309-325, Business Statistics -----	3

309-330, Principles of Marketing-----	3
309-340, Business Finance-----	3
309-335, Managerial Accounting (enroll when a junior)-----	3
309-601, Regulation of Industry-----	3
309-690, Administrative and Business Policies-----	3
320-550, Managerial Economics-----	3
479-582, Personnel Management-----	3

Select 10 credits from an approved list of Business Administration and related area courses.

ELECTIVES—6 credits required

From courses offered at Stout or those approved for transfer.

INDUSTRIAL ARTS EDUCATION

The Industrial Education graduate is one of the most sought after individuals in education today. In this field, there were more than six teaching positions available for each Stout graduate last year. The primary objective of Industrial Education is to prepare teachers for junior and senior high schools. Industrial Arts is a part of general education which offers an insight into the industrial nature of our society.

There are three tracks within the major that students may select in meeting personal objectives. They are American Industry, a new curriculum developed through a research project at Stout that was funded through grants by the federal government and the Ford Foundation; Specialized Technology and General Industry.

AMERICAN INDUSTRY

American Industry is a new approach to Industrial Arts. It places emphasis on understanding industry through involvement in functions common to all industries such as production, management and marketing. The American Industry curriculum prepares a student to teach American Industry at the junior and senior high school levels. There is an increasing demand for teachers of American Industry both statewide and nationally.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation----- 130 credits
 Required in liberal studies----- 55-56 credits
 Required in major studies----- 42 credits
 Required in professional education----- 20 credits
 Electives----- 12-13 credits
2. The college program involves completion of one of the following options:
 - a. A major with an American Industry emphasis and an approved 22 credit minor.
 - b. A major with an American Industry emphasis and no minor. Elective credits distributed to enhance the student's own objectives.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—55-56 credits required

Course	Credit
355-120 and 121, Mathematics -----	8
366-101, Personal Health -----	1
367-1xx, Physical Education -----	2
326-101 and 102, English -----	6
387-110, Sociology -----	3
479-110, General Psychology -----	3
391-100, Speech -----	2
365-201, Introduction to Philosophy -----	3
372-221, Mechanics and Electricity -----	5
311-115, Inorganic Chemistry -----	5
360-000, Music elective -----	2
375-210, Government -----	3
391-232, 391-334, 391-336 or 391-338, Theatre Course -----	2-3
326-000, Literature elective -----	3
308-122, Biology: An Environmental Approach -----	3
304-101, 304-202 or 304-522, Art (select one) -----	2-3
338-210, Modern World -----	3

MAJOR STUDIES—42 credits required

150-115, Structures and Concepts -----	2
170-101, Processes: Concepts -----	3
130-100, Communications -----	2
407-560, Audio-Visual Communication -----	2
150-223, Relationships -----	2
110-201, Transportation -----	2
150-x98, Field Experience (one summer) -----	2
150-410, Manufacturing Cost Analysis -----	3
170-310, Materials -----	2
150-200, Production Management -----	3
309-330, Principles of Marketing -----	3
150-402, Physical Facilities -----	2
110-101, Energy in Industry -----	2
150-314, Production Systems -----	3
Technical Electives -----	9

PROFESSIONAL EDUCATION—20 credits required

421-205A-F, Professional Teacher Education -----	12
190-408, Student Teaching -----	8

ELECTIVES—12-13 credits required

To be selected on the basis of optional programs listed above.

SPECIALIZED TECHNOLOGY

A number of options are open to a student who wishes to specialize. Options are: (1) the graphic communications areas of industrial graphics or graphic arts, (2) the

materials processing areas of metals, woods and plastics, and (3) the energy areas of electronics or power technology. During the freshman year, students select a program advisor to assist in preparing a detailed four-year program.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 130 credits
 Required in liberal studies ----- 52 credits
 Required in major studies ----- 42 credits
 Required in professional education ----- 22 credits
 Electives ----- 14 credits
 Completion of one of the following options:
 a. A 42-credit major in Industrial Arts Education with one 22-credit minor.
 b. A 42-credit major in Industrial Arts Education with two 15-credit blocks.
2. Students qualifying for Advanced Placement, Independent Studies or Honors courses will make appropriate substitutions in the requirements listed.
3. Technical electives will be selected in terms of area of technical concentration chosen.
4. Students must make application for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.25 and meet the speech, English and health requirements as described in the Professional Education section of course descriptions.
5. Work experience related to a concentration may be obtained through participation in the Field Experience program.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—52 credits required

Course	Credits
326-101 and 102, English -----	6
326-000, Advanced Writing -----	3
391-100, Fundamentals of Speech -----	2
391-000, Speech elective -----	2
355-120 and 121, Introduction to College Math -----	8
479-110, General Psychology -----	3
320-201, Economics -----	3
338-000, History -----	3
387-110, Sociology -----	3
375-210, Government -----	3
311-115, Chemistry -----	5
372-221, Mechanics and Electricity -----	5
Science elective -----	3
366-101, Personal Health -----	1
367-1xx, Physical Education elective -----	2

MAJOR STUDIES—42 credits required

170-101, Processes -----	4
110-101, Energy -----	2

130-100, Communications	2
150-115, Structures and Concepts of Industry	2
110-103, Power Mechanics	2
110-102, Electricity	2
130-140, Graphic Arts	2
130-110, Drafting	2
150-314, Production Systems	3
170-205, Design for Industry	2
170-270, Construction	2-3
170-000, Processing elective	1
Technical Electives	16

PROFESSIONAL EDUCATION—22 credits required

190-160, Introduction to Industrial Education	1
421-303, Educational Psychology	2
190-205, Methods of Teaching Industrial Education	2
190-404, Curriculum Development	5
190-408, Student Teaching	8
421-422, Secondary Education	2
413-501, Introduction to Guidance	2

ELECTIVES—14 credits required

Select elective credit to complete two 15-credit blocks or one 22-credit minor. See advisor for details.

GENERAL INDUSTRY

The purpose in the General Industry track is to provide the students with a broad background in different technologies permitting them to teach multiple areas in high school programs or general shop programs in middle schools or junior high schools.

GENERAL REQUIREMENTS—B.S. DEGREE:

- | | |
|--|-------------|
| Total for graduation | 130 credits |
| Required in liberal studies | 52 credits |
| Required in major studies | 42 credits |
| Required in professional education | 22 credits |
| Electives | 14 credits |
- The remaining requirements for the General Industry track are the same as those listed above for the Specialized Technology track with one major difference. Rather than specializing in a particular technology, the General Industry student selects his 16 technical electives in Major Studies in all areas of the technologies for a balanced broad background.

INDUSTRIAL TECHNOLOGY

Stout's Industrial Technology degree is a broadly based program designed to prepare individuals for a variety of responsible industrial positions. Graduates have gained recognition and success in many areas of industry. Typical

assignments include: Production supervision, quality assurance, packaging, process engineering, methods engineering, systems analysis, production control, cost estimating, purchasing, product design, sales and service, plant engineering, industrial relations, tool design, prototype development and technical writing.

The program provides for learning experiences to develop competencies in each of four broad areas:

1. Knowledge of the characteristics of materials and manufacturing processes.
2. Understanding of management principles and their application to industrial problems.
3. Awareness of the environmental and sociological implications and those psychological principles which are important in working with, communicating with, motivating, and supervising people.
4. Skill in utilizing the mathematical and physical sciences to understand and solve technological and economic problems found in industry.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation	130 credits
Required in liberal studies	56-63 credits
Required in major studies	35 credits
Electives	24 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—56-63 credits required

Course	Credit
326-101 and 102, English	6
326-000, Advanced Writing elective	3
391-100, Fundamentals of Speech	2
391-000, Advanced Speech elective	2
367-1xx, Physical Education	2
366-101, Personal Health	1
479-110, General Psychology	3
479-582, Personnel Management	3
387-110, Sociology	3
375-210, Government or 338-120, 338-210 or 338-220, History	3
320-201 or 320-210, Economics	3
320-420, Labor Economics	3
355-120, 121 and 355-153, Mathematics and Calculus I or	12
355-156, Analytic Geometry and Calculus I	5
354-130, Computational Statistics	2
354-141, Digital Computer Programming	2
311-115, Introductory College Chemistry	5
372-221 and 372-223, Mechanics and Electricity and Light and Sound	8

MAJOR STUDIES—35 credits required

150-150, Industrial Organization	2
150-200, Production Management	3

150-500, Engineering Economy-----	3
150-600, Industrial Supervision-----	3
<i>Select four of the following technical foundation courses:</i>	
130-110, Drafting-----	2
110-102, Electricity-----	2
170-202, Metals-----	2
110-260, Introduction to Fluid Power-----	2
170-270, Light Building Construction-----	2
130-140, Graphic Arts-----	2
170-250, Plastics I-----	2
110-103, Power Mechanics-----	2
170-280, Packaging Fundamentals-----	2

CONCENTRATION—Select minimum of 16 credits from one of the following concentrations:

GENERAL

Those students who have identified professional objectives which cannot be met within the established concentration may develop within the curriculum pattern of the degree and in consultation with the program director, a special program to meet the personal interests and needs. The student who cannot or does not wish to select a specific concentration will be placed in a structured so-called general program.

BUILDING CONSTRUCTION

170-270 Light Bldg. Construction
 170-370 Commercial Bldg. Construction
 170-570 Bldg. Construction III
 170-372 Heating and Air Conditioning
 150-570 Estimating
 150-670 Construction Management
 130-221 Architectural Design I
 130-325 Architectural Design II
 130-629 Architectural Design III
 130-527 Topography

ELECTRONICS

110-143 DC & AC Circuit Analysis
 110-243 Semi-Conductors
 110-244 Electronic Circuits
 110-345 Network Analysis

PACKAGING

170-280 Packaging Fundamentals
 170-315 Packaging Materials
 170-380 Packaging Systems
 170-480 Design and Evaluation
 170-580 Packaging Development
 170-585 Packaging Seminar

GRAPHIC ARTS

130-140 Graphic Arts
 130-246 Typography
 130-251 Composition
 130-355 Line & Halftone Photography
 130-366 Image Transfer
 130-370 General Binding
 130-475 Printing Economics

MANUFACTURING ENG.

150-230 Methods Engineering
 150-240 Work Measurement
 150-310 Production Control
 150-320 Quality Control
 150-410 Manufacturing Cost Analysis
 150-510 Production Processing
 150-x97 Field Experience

PLANT ENG.

150-440 Plant Layout
 130-325 Architectural Design II
 150-x97 Field Experience
 311-5xx Environmental Chemistry
 110-581 Industrial Safety
 110-103 DC & AC Circuit Analysis

PRODUCT DEVELOPMENT

130-290 Mechanics of Solids I
130-291 Mechanics of Solids II
130-592 Mechanics of Machinery I
130-593 Mechanics of Machinery II
130-532 Mechanical Design

TECHNICAL WRITING

326-516 Tech. Writing for Industry
326-525 Advanced Technical Writing
326-344 Contemporary Rhetoric
326-425 Copyediting & Preparation
130-414 Technical Illustrating
391-208 Theory of Communications

TECHNICAL SALES

309-330 Prin. of Marketing
309-334 Salesmanship & Sales Mgt.
309-370 Princ. of Advertising
150-410 Mfg. Cost Analysis
150-320 Quality Control

FIELD EXPERIENCE

Work experience related to the individual's professional goals should be obtained through participation in the Field Experience program. A year-round cooperative educational program is also available for selected students. Both programs carry academic credit.

ELECTIVES—24 credits required

Each candidate for the degree should identify with a specific concentration in Industrial Technology and select his electives to compliment objectives of the concentration. In addition, a so-called special program option is available instead of the above concentrations for persons with clearly defined goals.

TECHNICAL EDUCATION

The Technical Education degree program is designed for persons interested in teaching at the technical institute or junior college level.

The growth of the technical programs in post high school institutions has created a need for teachers who have depth of training and experience in a particular technology. The starting salary for post high school teachers is usually higher than for other teaching positions.

The degree requires a serious interest in a technology as well as a strong capability in mathematics and physical science. The student must also be available during summer periods so that the minimum related work experience requirement of 2,000 hours can be met prior to graduation.

Some technical teaching positions require that the teacher serve on a part-time basis in one of the academic areas related to the technology. To teach mathematics or science at a technical institute in Wisconsin on less than half time load, the teacher must have a minimum of 20 credits in the discipline. It is recommended that the prospective technical teacher prepare himself to teach in mathematics or science by using elective credits toward this end.

Program plans are available for two technologies, electronics and mechanical design. These programs are described in detail below. Because there are so many

recognized technologies and the need for teachers in certain technologies is limited, formal program plans for special technologies are custom made for the student. The program director for the Technical Education major must be contacted in advance of the school term so a valid degree program in a specific technology can be arranged.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 130 credits
 Required in liberal studies ----- 48-57 credits
 Required in major studies ----- 46-47 credits
 Required in professional education ----- 22 credits
 Electives ----- 7-13 credits
2. Completion of adequate related industrial experience.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—48-57 credits required

Course	Credit
326-101 and 102, English -----	6
326-000, Writing elective -----	3
391-100, Speech -----	2
391-000, Speech elective (electronics only) -----	2
355-120 and 121, Mathematics -----	8
355-153 and 154, Calculus (mechanical design 153 only) or -----	8
355-156 and 157, Calculus and Analytic Geometry -----	10
479-110, General Psychology -----	3
338-000, History elective -----	3
320-201, Economics -----	3
375-210, Government -----	3
367-1xx, Physical Education -----	2
366-101, Personal Health -----	1
311-115, Introductory Chemistry -----	5
372-221, Mechanics and Electricity -----	5
326-000, Literature elective (electronics only) -----	3

MAJOR STUDIES—46-47 credits required in either Electronics Concentration or Mechanical Design Concentration.

Electronics Concentration

110-143, D.C. and A.C. Circuit Analysis -----	3
110-244, Electronic Circuits -----	3
110-243, Semiconductor Electronics -----	3
110-345, Network Analysis -----	3
<i>Select 15 credits from the 110 series below:</i>	
110-248, Electric Machinery -----	3
110-353, Information Theory -----	3
110-653, Communication Systems I -----	3

110-256, Digital Computer Systems -----	3
110-656, Pulse and Switching Circuit Analysis -----	3
110-650, Electronic Control Systems -----	3
Elective (technical) -----	2
130-110, Drafting -----	2
110-101, Energy -----	2
170-101, Processes: Concepts -----	3
130-100, Communications -----	2
354-141, Digital Computer Programming -----	2
355-255, Differential Equations -----	3
372-223, Light and Sound -----	3

Mechanical Design Concentration

130-110, Drafting -----	2
130-213, Mechanical Drafting -----	2
130-212, Descriptive Geometry -----	3
130-290, Mechanics of Solids I -----	3
130-291, Mechanics of Solids II -----	3
130-592, Mechanics of Machinery I -----	3
130-593, Mechanics of Machinery II -----	3
130-532, Machine Design Elements -----	4
130-433, Tool and Die Design -----	2
130-638, Mechanical Design Problems -----	2
110-102, Electricity -----	2
354-141, Digital Computer Programming -----	2
150-150, Industrial Organization -----	2
170-515, Metallurgy -----	3
170-101, Processes: Concepts -----	3
355-110, Slide Rule -----	1
170-230, Machine Shop -----	2
Electives -----	5

PROFESSIONAL EDUCATION—22 credits required

190-160, Introduction to Industrial Education -----	1
421-303, Educational Psychology -----	2
190-205, Methods of Teaching Industrial Education -----	2
190-404, Curriculum Development -----	5
190-408, Student Teaching -----	8
469-602, Principles of Vocational, Technical and Adult Education -----	2
413-501, Introduction to Guidance -----	2

ELECTIVES—7-13 credits required

To be selected in consultation with advisor.

VOCATIONAL EDUCATION

The undergraduate vocational teacher program in trade and industrial education is especially designed to prepare a person to teach a trade type occupation to a

broad segment of this country's work force. Future auto mechanics, welders, machinists, electricians and others require well prepared teachers to relate necessary skills and knowledge.

Job opportunities for vocational trade and industrial teachers have been on a constant increase. These opportunities are found in comprehensive high schools, vocational high schools, post-high vocational schools, community colleges, private vocational schools and in the training departments of industrial plants.

An individual who has completed an apprenticeship or vocational training program in a trade and has worked as a tradesman makes an ideal candidate for this program. However, any high school graduate who will spend summers working in a trade can qualify as a candidate for the degree.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 130 credits
 - Required in liberal studies ----- 52 credits
 - Required in major studies ----- 42 credits
 - Required in professional education ----- 26 credits
 - Electives ----- 10 credits
 Completion of one of the following options (elective credits in liberal studies and professional education will be used to complete this requirement):
 - a. A 42-credit major with one 22-credit minor.
 - b. A 42-credit major with two 15-credit blocks.
2. A student must obtain a minimum of 2,000 hours of appropriate work experience for provision certification to teach vocational, trade and industrial courses. This requirement must also be met before a degree can be granted. (For more details, see program director.)
3. Work experience related to a concentration may be obtained through participation in the Field Experience program.
4. Students qualifying for Advanced Placement, Independent Studies or Honors courses may make appropriate substitutions in the requirements listed.
5. Appropriate education, beyond that required, may be used to substitute for up to two-thirds of the work experience requirement (see program director).
6. Students must make application for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.25 and meet the speech, English and health requirements as described in the Professional Education section of course descriptions.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—52 credits required

Course	Credit
326-101 and 102, English -----	6
326-000, Advanced Writing -----	3
391-100, Fundamentals of speech -----	2
391-000, Speech elective -----	2
355-120 and 121, Introduction to College Math -----	8
479-110, General Psychology -----	3

320-201, Economics-----	3
338-000, History -----	3
387-110, Sociology -----	3
375-210, Government-----	3
311-115, Chemistry -----	5
372-221, Mechanics and Electricity-----	5
Science elective -----	3
366-101, Personal Health-----	1
367-1xx, Physical Education-----	2

MAJOR STUDIES—42 credits required

Because each student brings different qualifications as a result of prior training and experience, the student with the assistance of the program director will define all 42 technical credits in terms of student and job competency needs.

PROFESSIONAL EDUCATION—26 credits required

190-160, Introduction in Industrial Education-----	1
421-303, Educational Psychology -----	2
190-205, Methods of Teaching Industrial Education -----	2
190-404, Curriculum Development-----	5
190-408, Student Teaching-----	8
421-422, Secondary Education-----	2
413-501, Introduction to Guidance-----	2
469-602, Principles of Vocational, Technical and Adult Education -----	2
469-560, Cooperative Occupational Education Programs -----	2

ELECTIVES—10 credits required

Select elective credit to complete two 15-credit blocks or one 22-credit minor. See advisor for details.

SCHOOL OF HOME ECONOMICS

J. Anthony Samenfink, Ed.D., Dean

Programs:

- Child Development and Family Life
- Clothing, Textiles and Design
- Early Childhood Education
- Dietetics
- Fashion Merchandising
- Food Service Administration
- Home Economics in Business
- Home Economics Education
- Hotel and Restaurant Management

CHILD DEVELOPMENT AND FAMILY LIFE

Child Development and Family Life is a four-year (non-teaching) degree program leading to a Bachelor of Science degree. Graduates of this program become qualified for positions in the area of child and family services, social welfare agencies, character development and recreation programs, sex education and family life education. A secondary purpose of the program is to prepare graduates for advanced study in order to fill positions in research, university teaching or professional consultation in child development, family life and related areas.

The primary emphasis of the program is to prepare graduates who will be able to work effectively with groups and individuals of all ages in helping them to understand and cope with the contemporary societal pressures of the family and on individuals.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation	128 credits
Required in liberal studies	50 credits
Required in major studies (Child Development or Family Life Emphasis)	78 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—50 credits required

Course	Credit
391-100, Fundamentals of Speech	2
326-101 and 102, English or equivalent	6
355-118, Concepts of Mathematics or equivalent	4
365-301, Introduction to Logic and Scientific Methods or equivalent	3
Select 6-12 restricted credits in Science	6-12
479-110, General Psychology or equivalent	3
365-201, Introduction to Philosophy	3
387-110, Introduction to Sociology or equivalent	3
320-201, General Economics or alternate	3
Select a course in United States History or Government or alternate	3
Select 12-15 credits in at least three of the following areas: art, literature, music, theatre, photography, woodworking, crafts, design, or approved alternative	12
Select .5-2 credits in Physical Education5-2

MAJOR STUDIES (Child Development Emphasis)—78 credits required

Required Courses:	
212-535, Seminar in Self Growth and/or	2
479-150, Man: A Course of Study	3
212-124, Child Development I	3
212-264, Child Guidance	2
212-324, Child Development II	3
212-685, Seminar on the Culturally Disadvantaged Child and Family	3

212-350, Family Relations I-----	3
212-665, Administration of Early Childhood Education Programs-----	2
387-530, Sociology of the Community-----	3
000-000, Child and Family Service Agencies-----	2
387-205, Introduction to Social Work-----	3
413-501, Introduction to Guidance-----	2
413-675, Counseling Theory-----	2
212-650, Introduction to Marriage and Family Counseling-----	3
212-607, Parent Counseling-----	2
000-000, Practicum in Child Development and/or Family Life or Field Experience-----	3
391-206, Discussion-----	2
212-407, Parent Education-----	2
242-651, Family Life Education Programs-----	2
<i>Select at least 13 credits from the following courses:</i>	
212-624, Advanced Child Study-----	3
212-637, Seminar in Child Development-----	2
479-251, Child Psychology-----	3
479-552, Adolescent Psychology-----	3
212-235, Child Development Laboratory-----	1
212-265, Child Guidance Laboratory-----	1
212-541, Home Intervention Programs in Early Childhood Education-----	1
387-x99, Independent Studies-----	1
242-201, Teaching Techniques-----	1
391-204, Techniques of Group Leadership-----	2
391-208, Theory of Communication-----	3
To complete the program, students must select a minimum of 20 credits from areas designed to increase the student's competency.	

MAJOR STUDIES (Family Life Emphasis)—78 credits required

Required Courses:

212-535, Seminar in Self Growth and/or-----	2
479-150, Man: A Course of Study-----	3
212-250, Family Relations I-----	3
387-215, Sociology of the Family-----	3
212-124, Child Development I or alternate-----	3
387-205, Introduction to Social Work-----	3
387-530, Sociology of the Community-----	3
000-000, Child and Family Service Practicum-----	2
413-501, Introduction to Guidance-----	2
413-675, Counseling Theory-----	2
212-650, Introduction to Marriage and Family Counseling-----	3
212-651, Marriage and Family Counseling Seminar-----	3
000-000, Practicum in Child Development and/or Family Life or Field Experience-----	3
391-206, Discussion-----	2
212-407, Parent Education-----	2
242-651, Family Life Education Programs-----	2
<i>Select at least 19 credits from the following courses and/or from additional family life courses approved by the program director:</i>	
391-208, Theory of Communication-----	3
242-201, Teaching Techniques-----	1
391-204, Techniques of Group Leadership-----	2
To complete the program, students must select a minimum of 20 credits from areas designed to increase the student's competency.	

CLOTHING, TEXTILES AND DESIGN

The Clothing, Textiles and Design program provides an education in fabric and clothing construction and leads to a Bachelor of Science degree. The four-year program is designed to develop competencies in clothing construction and an understanding of fabric characteristics, manufacturing and design. In addition to an indepth clothing and textile concentration, students are given a cluster of general educational experiences and are required to minor in one of several areas.

Career opportunities for a graduate in the Clothing, Textiles and Design program include: sales or department management, fabric store supervision, technical-vocational teaching, new products evaluation, extension service, public relations, technical sales, fabric coordination and journalism.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation	128 credits
Required in liberal studies	41 credits
Required in major	40-44 credits
Electives	43-47 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—41 credits required

Course	Credit
304-101, Fundamentals of Design	3
311-115 or 311-135, Chemistry	5
326-101 or 326-111, English	3
326-102 or 326-112, English	3
355-000, Mathematics elective	4
367-000, Physical Education elective	2
387-110 or 303-220, Introductory Sociology or Cultural Anthropology	3
391-100, Fundamentals of Speech	2
479-110, General Psychology	3
Electives (not included in emphases)	13

MAJOR STUDIES—40-44 credits required

Emphasis in:

- A. Textile Technology
- B. Apparel Construction
- C. Avocational Interests
- D. Journalism
- E. Textile Promotion and Communication
- F. Business Administration

PROGRAM EMPHASIS

1. The student may choose one of the following alternatives:
 - A. Select 44 credits within emphasis A, B, or C.
 - B. Select 22 credits from two emphases A, B, or C.
 - C. Select 22 credits within emphasis A, B, or C and 18 credits within emphasis D, E, or F.

2. Credit for a course appearing in two emphases cannot be applied in both emphases.
3. Each student is required to carry a minor in the area of his interest. For a minor in Business Administration, Journalism, Speech, Chemistry, Art, or Sociology, consult the department chairman in the corresponding department.

For certification in vocational education, consult the program director for Vocational, Trade and Industry.

ELECTIVES—43-47 credits required

EARLY CHILDHOOD EDUCATION

The Early Childhood Education program prepares persons to teach in kindergartens, nursery schools, or day care centers; to work in child and family service agencies or governmental programs; and/or to enter graduate study in Early Childhood Education, Child Development and Family Life or other related fields.

Graduates of Stout's Early Childhood Education program become certified for nursery-kindergarten (N-K) in Wisconsin and nursery through grade three in some other states.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 128 credits
 Required in liberal studies ----- 51 credits
 Required in major studies----- 53 credits
 Electives ----- 24 credits
2. To qualify for admission into 212-204—Introduction to Teaching Early Childhood Education (and the ECE program), students must have achieved a 2.00 grade point average and must have attained a "C" or better in 212-124—Child Development, 212-264—Child Guidance and 479-110—General Psychology. Students must achieve a "C" or better in all of the required courses for the major and must maintain an overall GPA of 2.00.
3. Upon entrance to 212-408A—Student Teaching in Early Childhood Centers, students must have on file a current physical health examination certificate.
4. Students in Early Childhood Education must demonstrate English composition and speech proficiency by obtaining a "C" or better in English 102 or its equivalent (or achieve a proficiency rating on an English proficiency test), and pass a speech proficiency test before they become certified for teaching.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—51 credits required

Course	Credit
308-342, Community Hygiene -----	2
326-101, English -----	3
326-102, English -----	3
326-000, Literature elective, excluding 326-300 -----	3
355-118 or 355-120, Mathematics or equivalent -----	4
375-210, Government -----	2
367-1xx, Physical Education elective -----	1
391-100, Fundamentals of Speech -----	2
479-110, General Psychology -----	3
<i>Select 10 credits from among two or more of the following areas: Art, Foreign Language (two semesters), Music, Philosophy, Speech or Theatre (excluding courses in Theatre Workshop or Stagecraft).</i>	
<i>Select eight credits from among the following areas: Biology, Chemistry, or Physics.</i>	
<i>Select nine credits from among the following areas: Anthropology, Economics, Geography, History, Political Science, Sociology and Social Work.</i>	

MAJOR STUDIES—53 credits required

212-124, Child Development I -----	3
212-250, Family Relationships I -----	3
212-264, Child Guidance -----	2
212-407, Parent Education -----	2
212-342, Creative Activities for the Young Child -----	3
326-300, Children's Literature -----	3
360-134, Rudiments of Music -----	1
407-560, Audio-Visual Communication -----	2
212-204, Introduction to Teaching ECE -----	3
212-303, Curriculum I -----	2
212-333, Curriculum II -----	2
212-433, Curriculum III -----	2
212-408A, Student Teaching Nursery School -----	4
212-408B, Kindergarten or -----	4
212-488, Intern Teaching -----	8
212-665, Administration of ECE Programs -----	2
479-562, Psychology of Exceptional Child -----	2
<i>Select 13 credits from among the following courses:</i>	
212-324, Child Development II -----	3
212-350, Family Relationships II -----	3
212-624, Advanced Child Study -----	3
212-535, Seminar in Self-Growth -----	2
212-685, The Culturally Disadvantaged Child and Family -----	3
229-212, Nutrition -----	3
360-100, Applied Music -----	1
421-505, History of Education -----	2
421-303, Educational Psychology -----	2
479-530, Psychology of Learning -----	3

ELECTIVES—24 credits required

From courses offered at Stout or those approved for transfer.

DIETETICS

This program will provide the academic background for a career as a therapeutic dietitian, administrative dietitian or nutrition educator. In a 1971 listing of occupations where shortages exist, the field of Dietetics ranked fourth.

The Dietetics student receives an education with equal emphasis on the following sciences: physical and biological; behavioral and social; communication and professional. With this balance the student can move toward the more technical or the more general areas of Dietetics.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 128 credits
 Required in liberal studies ----- 53 credits
 Required in major studies ----- 56-61 credits
 Electives ----- 14-19 credits
2. The student must fulfill the English adequacy and speech proficiency requirements prescribed by those departments.
3. Work experience may be obtained through participation in the Field Experience program.
4. To be admitted to candidacy in Dietetics a grade of "C" (2.00) is required in the following courses: 229-212, 229-240, 308-132 and 311-201; a cumulative grade point average of "C" (2.00) in 326-102, 391-100, 387-110, and 479-110.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—53 credits required

Course	Credit
311-115, Chemistry -----	5
320-201, General Economics -----	3
326-101, English -----	3
326-102, English -----	3
326-000, Writing elective -----	3
366-xxx or 367-1xx, Physical Education elective -----	2
387-110, Introductory Sociology -----	3
391-100, Fundamentals of Speech -----	2
421-303, Educational Psychology -----	2
242-201, Teaching Techniques in Home Economics -----	1
479-110, General Psychology -----	3
479-582, Personnel Management -----	3
<i>Select five credits from the following areas: Biology, Chemistry, Geography, Physics or 214-140, Textiles I.</i>	

Select 15 credits from five of the following areas: Child Development and Family Life, Anthropology, Art, Literature, French (two semesters), History, Music, Philosophy, Political Science, Theatre (excluding Stagecraft) or 214-617, Social Psychological Aspects of Clothing.

MAJOR STUDIES—56-61 credits required

229-212, Nutrition -----	3
229-240, Food Science-----	3
229-410, Nutrition and Dietetics -----	3
229-318, Meal Management Practicum -----	2
229-618, Diet Therapy -----	3
245-501, Food Service Administration -----	3
245-513, Quantity Food Production and Service -----	3
245-222, Institutional Food Purchasing -----	2
308-132, Physiology and Anatomy -----	4
308-206, General Microbiology -----	4
311-201, Organic Chemistry-----	4
311-511, Biochemistry -----	3
354-130, Computational Statistics -----	2
229-638, Experimental Foods or -----	3
229-661, Social and Cultural Aspects of Food-----	2
<i>Select either:</i>	
000-000, Mathematics (three years of high school) or -----	0
355-000, Mathematics elective-----	4
<i>Select either:</i>	
130-100, Communications or -----	2
407-560, Audio-Visual Communication -----	2
<i>Select one of the following courses:</i>	
309-206, Principles of Accounting or -----	3
309-245, Business Data Processing or -----	3
354-141, Digital Computer Programming-----	2
<i>Select five credits from the following courses:</i>	
150-150, Industrial Organization -----	2
150-530, Human Factors Engineering -----	3
229-608, Advanced Meal Management Practicum -----	2
229-633, Maternal and Child Nutrition -----	3
245-521, Food Service Equipment -----	2
229-000, Any advanced Nutrition course not previously listed-----	
<i>Select six credits from either Sociology or Psychology or from the following three courses in Economics: 320-210, 320-215 or 320-420.</i>	

ELECTIVES—14-19 credits required

Completion of electives may be met by a minor; two concentrations of at least 15 credits each; or by selecting freely from any course work offered by the University.

FASHION MERCHANDISING

The four-year Fashion Merchandising program focuses on fashion and business administration. Under the objectives of the program, the student develops an understanding of the fashion field, an appreciation of fashion and fashion design, and a broad knowledge of fabrics; obtains a business background in marketing, sales, merchandising, management and advertising; and acquires a broad educational background in science, mathematics, social science, art, English and communication. In addition to a major in Fashion Merchandising, the degree carries a minor in Business Administration.

Included in the list of Fashion Merchandising career possibilities are: fashion coordinator; buyer; training manager; divisional merchandising manager; youth fashion coordinator; sales manager; stock controller; store manager and resident buyer.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation	128 credits
Required in liberal studies	25 credits
Required in major	60-61 credits
Restricted electives.....	24-26 credits
Electives	17-19 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—25 credits required

Course	Credit
304-101, Fundamentals of Design.....	3
320-210, Principles of Economics I	3
320-215, Principles of Economics II	3
326-101, English	3
326-102, English	3
367-1xx, Physical Education elective.....	2
387-110, Introductory Sociology.....	3
391-100, Fundamentals of Speech	2
479-110, General Psychology.....	3

MAJOR STUDIES—60-61 credits required

214-430, Merchandising Planning and Control	2
214-110, Male-Female Apparel	1
214-120, Introduction to Fashion Merchandising	2
214-140, Textiles I	3
214-225, Clothing and Textile Industry	3
214-x98, Field Experience	2-6
214-319, Economics of Clothing	3
214-325, Fashion Merchandising I	3
214-429, Textile Economics	2
214-425, Fashion Merchandising II	2
214-426, Fashion Merchandising Practicum.....	1
214-610, History of Costume: Ancient to European 1900 or	3
214-611, History of American Costume	2
214-617, Social Psychological Aspects of Clothing	3
245-360, Consumer Economics	3
309-206, Principles of Accounting.....	3
309-207, Principles of Accounting	3
309-304, Principles of Business Management	3
309-330, Principles of Marketing.....	3
309-334, Salesmanship and Sales Management.....	3
309-323, Retail Merchandising and Management	3
309-370, Principles of Advertising	3
309-000, Business electives	3
479-582, Personnel Management.....	3

RESTRICTED ELECTIVES—24-26 credits required

Electives must be selected from each of the following areas: Writing (3 cr.); Art, Literature, History or Political Science (3 cr.); Mathematics (4 cr.); Music, Philosophy, Theatre or Foreign Language (4-5 cr.); Biology, Chemistry or Physics (5 cr.).

ELECTIVES—17-19 credits required

From courses offered at Stout or those approved for transfer.

FOOD SERVICE ADMINISTRATION

The program in Food Service Administration provides the academic background for a career as an administrator in large quantity food production and service facilities. Areas in which a food service administrator would be concerned with serving nutritional diets to large groups of people (100 or more) are: industrial feeding; airline feeding; school food service; university food service; nursing home and hospital food service; day care and geriatric centers; fast food service; commissary food production; vending food operation and supermarket management.

GENERAL REQUIREMENTS—B.S. DEGREE

1. Total for graduation ----- 128 credits
 Required in liberal studies ----- 79 credits
 Required in major studies----- 32 credits
 Electives ----- 17 credits
2. The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.
3. Work experience may be obtained through participation in the Field Experience program.
4. A cumulative grade point average of 2.00 is required in the following courses: 308-122, 308-132, 308-206, 311-115, 311-201 and 229-240 for a student to be admitted to candidacy in the Food Service Administration program.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—79 credits required

Course	Credit
304-101, Fundamentals of Design -----	3
308-122, Biology: An Environmental Approach-----	3
308-132, Physiology and Anatomy -----	3
308-206, General Microbiology -----	4
309-206, Principles of Accounting-----	3
309-207, Principles of Accounting-----	3
309-318, Business Law -----	3
311-115, Chemistry -----	5
311-201, Organic Chemistry-----	4
320-201, General Economics -----	3

326-101, English	3
326-102, English	3
326-346, Expository Writing	3
326-000, Literature elective	3
338-210 or 338-220, History	3
354-130, Computational Statistics	2
354-141, Digital Computer Programming	2
355-120, Introductory College Mathematics I	4
355-121, Introductory College Mathematics II	4
367-1xx, Physical Education elective	2
372-221, Mechanics and Electricity	5
391-100, Fundamentals of Speech	2
387-110, Introductory Sociology	3
479-110, General Psychology	3
479-582, Personnel Management	3

MAJOR STUDIES—32 credits required

212-124, Child Development	3
214-110, Male-Female Apparel	1
214-117, Clothing and Behavior	1
214-140, Textiles I	3
229-124, Foods	2
229-125, Food Practicum	2
229-212, Nutrition	3
229-318, Meal Management Practicum	2
229-608, Advanced Meal Management Practicum	2
245-211, Quantity Food Production	3
245-521, Food Service Equipment	2
245-501, Food Service Administration	3
245-513, Quantity Food Production and Service	3
245-222, Institutional Food Purchasing	2

ELECTIVES—17 credits required

From courses offered at Stout or those approved for transfer.

HOME ECONOMICS IN BUSINESS

The Home Economics in Business major is a four-year program leading to a Bachelor of Science degree. The general objective of this major is to develop competencies which will enable a person to function effectively as a member of a business organization. This task is accomplished through four general areas of study: (1) Liberal studies provides broad learning experiences in art, science, English, mathematics and the behavioral sciences; (2) Major required courses develop a background in business and communications. This area also allows the student, through restricted electives, to gain a broad exposure of Home Economics in Business through courses not included in their chosen emphasis area(s); (3) Emphasis areas—a student may elect one of 11 emphasis areas taking at least the required minimum credit. An alternative permits diversification by selecting a minimum of 15 credits in each of two emphasis areas, e.g., food—minimum 15 credits, business management and administration—minimum 15 credits; and (4) Electives—depending on the number of hours required or selected in any

emphasis area, there remains in the major eight to 20 hours of free electives. These electives are used to expand knowledge in an area of interest or to complete a minor. A minor (22 credits) is possible in journalism and business administration.

The Home Economics in Business major prepares individuals for various careers in business and public service. Included are: public relations, extension service, sales, business management, food processing, home equipment manufacturing, business and finance, journalism and habitation research.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation	128 credits
Required in liberal studies	47 credits
Required in major studies	43 credits
Required in area of emphasis	18-30 credits
Electives	8-20 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—47 credits required

Course	Credit
304-101, Fundamentals of Design	3
308-206, Microbiology	4
311-115, Chemistry	5
320-210, Principles of Economics I	3
320-215, Principles of Economics II	3
326-101, English	3
326-102, English	3
326-344, Contemporary Rhetoric	3
338-000 or 375-000, History or Government elective	3
355-118 or 355-120, Mathematics	4
367-1xx, Physical Education Elective	2
387-110, Introductory Sociology	3
391-100, Fundamentals of Speech	2
479-110, General Psychology	3
<i>Select three credits from among the following courses:</i>	
212-124, Child Development	3
303-220, Cultural Anthropology	3
387-530, Sociology of the Community	3
387-540, Sociology of Work	3

MAJOR STUDIES—43 credits required

309-206, Principles of Accounting	3
309-330, Principles of Marketing	3
326-515, Technical Writing for Home Economics	3
391-208, Speech Skills for Business and Industry	2
391-554, Television Programming and Performance	3
407-560, Audio-Visual Communications	2
421-679, Public Relations	2
479-582, Personnel Management	3

Select 22 credits from among the following courses:

212-250, Family Relationships I-----	3
214-117, Clothing and Behavior-----	1
214-590, Practicum in Textile Design-----	3
229-124, Foods-----	2
229-125, Food Practicum-----	2
229-212, Nutrition-----	3
245-306, Home Management Theory-----	3
245-360, Consumer Economics-----	3
245-355, Home Equipment and Household Physics-----	3
245-650, Family Housing-----	3
245-000, Introduction to Home Economics in Business-----	2
000-000, Field Experience (appropriate to the emphasis block)-----	2

EMPHASIS BLOCKS—18-30 credits required

To complete his program, a student can either select 15 credits from each of any two emphasis blocks listed or select the minimum number of credits specified for any one block.

Foods—20 cr.	Non-Certification Education—18 cr.
Equipment—20 cr.	Journalism—18 cr.
Equipment, Detergent, Textiles—19 cr.	Family Studies—20 cr.
Business and Finance—17 cr.	Statistics and Data Processing—24 cr.
Human Habitat—21 cr.	Habitational Research—26 cr.
Business Management and Administration—30 cr.	

ELECTIVES—8-20 credits required

From courses offered at Stout or those approved for transfer.

HOME ECONOMICS EDUCATION

Although work in Home Economics Education opens many job opportunities, the greatest number of positions available to graduates with a Bachelor of Science degree in Home Economics Education are in secondary education, extension education and curricula development in business and industry.

Home economics at the elementary, secondary and post secondary level has been changing and will continue to change. One of the most apparent changes in the public schools is the offering of semester courses in substantive areas rather than integrated generalized offerings. Home economics teachers must be prepared to teach all areas in a one-teacher department, but the multi-teacher departments allow specialization. The number of single teacher home economics departments is decreasing and the number of multi-teacher departments increasing. These and other changes are reflected in program specializations and modifications.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation-----	128 credits
Required in liberal studies-----	44 credits
Required in major studies-----	40 credits
Required in professional education-----	21 credits
Electives-----	23 credits

2. There are four planning systems which encourage individualized education and allow for maximum flexibility within the guidelines for a certifiable program of 128 credits. When planning the sequence of experiences leading to the Bachelor of Science degree with a major in Home Economics Education, the student should select and organize the classes within one of four planning systems. Depending on the program selected by the student, elective credits can be used to obtain a minor (22 credits) or specialized study (specialization 10-18 credits) within a certain area. A combination of a minor and a specialization is also possible.
3. Specializations:
 - APPAREL, TEXTILES AND DESIGN**—Preparation for teaching semester or occupation-oriented courses at secondary and post-secondary levels.
 - FAMILY LIFE AND CHILD DEVELOPMENT**—Preparation for teaching specialized courses at elementary, middle, secondary, and post-secondary levels. Fulfills one of the greatest contemporary needs in education. Opportunities open for both men and women.
 - FOOD SERVICE AND NUTRITION**—Popular with both men and women. Preparation for teaching semester or occupational-oriented courses at secondary and post-secondary levels.
 - HABITAT, EQUIPMENT AND MANAGEMENT**—Preparation of men and women to teach semester courses or become employed in business and industry. Leads to further graduate work.
 - OCCUPATIONAL-ORIENTED EDUCATION**—Preparation of men and women to teach occupation-oriented programs in secondary and post-secondary schools.
 - CONSUMER EDUCATION**—Preparation for teaching semester courses and gives greater depth in teaching a comprehensive program.
 - EXTENSION AND COMMUNITY SERVICES**—Preparation for employment in cooperative extension education and teaching in varied community programs.
 - MIDDLE SCHOOL**—Certifiable program for teaching Home Economics in the middle school.
 - SLOW LEARNER**—Certifiable program for education of the slow learner in Home Economics.
 - REHABILITATION**—Provides opportunities of employment for teaching Home Economics to the handicapped.
 - INSTRUCTIONAL MEDIA**—Provides indepth study for use in educational settings of Home Economics. Certifiable as an audio-visual coordinator-media specialist in a single school within a system in Wisconsin.
 - AVOCATIONAL INTERESTS**—Preparation for employment in schools, community programs, craft schools, workshops, campus, hospitals, special projects for the aged and other interest groups related to Home Economics knowledge and skills.
 - HEALTH RELATED OCCUPATIONS**—Preparation for men and women to teach occupation oriented programs in secondary or post high school programs.
 - COOPERATIVE DISTRIBUTIVE EDUCATION**—Provides an opportunity for team teaching wage earning oriented programs with Distributive Education.

GUIDANCE AND CAREER DEVELOPMENT—Provides teachers wider employment opportunities in working with Career Development either at secondary level or as an elementary consultant.

4. To qualify for student teaching, the candidate must fulfill the English adequacy and speech proficiency requirements and have a cumulative grade point average of 2.25.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—44 credits required

Course	Credit
304-101, Fundamentals of Design	3
308-132, Physiology and Anatomy	4
311-115, Introductory College Chemistry or	5
311-135, College Chemistry I	5
320-201, General Economics	3
326-101 or 326-111, English Composition	3
326-102 or 326-112, English Composition	3
326-000, English elective	3
367-1xx, Physical Education elective	2
387-110, Introductory Sociology	3
391-100, Fundamentals of Speech	2
479-110, General Psychology	3
<i>Select</i> 303-220, Cultural Anthropology or any three-credit course in History or Government.	
Liberal Studies electives	8

MAJOR STUDIES—40 credits required

212-124, Child Development	3
212-250, Family Relationships I	3
212-3xx, Family Life (Mini Course)	1
214-110, Male-Female Apparel	1
214-140, Textiles I	3
214-266, Apparel Construction or	3
214-617, Social Psychological Aspects of Clothing	3
229-124, Foods	2
229-212, Nutrition	3
229-318, Meal Management Practicum	2
245-105, Management Functions for the Resources of Habitat	1
245-275, Management of Family Resources	3
245-235, Human Habitat or	3
304-504, Interior Design	3
Major Studies electives (minimum)	12

PROFESSIONAL EDUCATION—21 credits required

242-101, Experimental Learning in Home Economics	1
242-201, Teaching Techniques	2
242-240, Clinical Experiences in Micro-Teaching or	1
242-341, Clinical Experiences in Schools	1

242-301, Home Economics Curriculum-----	3
242-443, Clinical Seminar in Home Economics Education-----	2
242-444, Practicum in Teaching Home Economics or -----	6
242-488, Intern Teaching in Home Economics-----	8
<i>Select at least six credits from the following groupings:</i>	
421-422, Principles of Secondary Education or -----	2
421-xxx, Principles of Elementary Education-----	2
479-260, Personality and Mental Health or -----	3
421-596, Mental Health in Schools -----	2
421-303, Educational Psychology or -----	2
479-530, Psychology of Learning -----	3

ELECTIVES—23 credits required

From courses offered at Stout or those approved for transfer.

HOME ECONOMICS GENERAL

This program provides an opportunity to become involved in issues facing society. It is often used as a base of entry to a specialized area. Home Economics General is not a four-year program; the primary purpose of this program is to provide a temporary major for home economics students until they choose a permanent major in home economics. Students should choose a specific major in home economics before beginning their junior year.

HOTEL AND RESTAURANT MANAGEMENT

Hotel and Restaurant Management is one of America's fastest growing fields. Each year, the amount of leisure time increases for thousands of Americans and, with that increase, comes a growing demand on the hospitality industry. As existing lodging and dining facilities expand, new businesses are being started to accommodate more and more people who want new and better service.

Stout's specialized mission enables Hotel and Restaurant Management majors to receive a variety of training. Curriculum is structured to allow a considerable amount of practical training, giving students specific skills needed for successful careers. It also provides studies in the liberal arts areas to give graduates a flexible background, enabling them to adapt for a wide variety of situations in today's rapidly changing society.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- Variable
 Required in liberal studies----- 46 credits
 Required in major studies----- 74 credits

2. The Hotel and Restaurant Management program emphasizes competency in task achievement. The required courses generally provide these professional competencies. Achievement of the designated tasks will result in the awarding of the Bachelor of Science degree. The total number of actual earned credits may vary with each graduate depending upon the individual student's program selections. For the student with specialized education or industry experience in specific course areas, credits may be awarded through established task competency examination procedures. The usual range of earned credits for the degree is from 116 to 135 credits.
3. The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.
4. All students are required to work a total of two 12-week periods, 40 hours a week, in approved jobs during the summer months or the academic year. The student must write a report on his work experience and a letter from the industry supervisor detailing work performance for a 12-week period is required. Both summers must be spent in the Field Experience program. Prior industry experience may be used to fulfill this requirement.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—46 credits required

Course	Credit
326-101, English	3
326-102, English	3
326-000, Writing electives	5-6
355-000, Mathematics elective	4
366-000 or 367-1xx, Physical Education elective	2
391-100, Fundamentals of Speech	2
391-000, Speech elective	2
<i>Select 25-26 credits from the following areas: Philosophy or Psychology (2-3 cr. min.); Science (3 cr. min.); Economics, Political Science, Anthropology, or Sociology (6 cr. min.); Art Survey or Art History, History, Music, Literature, or Theater (5 cr. min.); Electives other than above areas (1 cr. min.).</i>	

MAJOR STUDIES—49-52 credits required

130-180, Facilities Planning	2
229-124, Foods	2
229-125, Foods Practicum	2
245-123, Essentials in Hospitality Service	1
245-140, Introduction to Hospitality and Service Industry Management	3
245-211, Quantity Food Production	3
245-220, Maintenance Systems Management	2
245-222, Purchasing and Contracting	3
245-240, Introduction to Tourism and the Travel Industry	2
245-300, Hospitality and Food Service Organization	3
245-312, Restaurant Management	3
245-370, Hotel and Restaurant Accounting	3
245-371, Food and Beverage Control	2

245-x97, Preliminary Field Experience or -----	1
000-000, Prior Work Experience in the Hospitality Industry	
245-000, Merchandising and Promotion -----	1
245-000, Hospitality Industry Law-----	2
245-x98, Advance Field Experience or -----	2
000-000, Prior Supervisory or Management Experience in the Hospitality Industries	
245-000, Labor Management in the Hospitality Industries or-----	2
320-420, Labor Economics -----	3
309-206, Principles of Accounting-----	3
309-318, Business Law I -----	3
354-140, Computer Concepts or -----	2
309-245, Business Data Processing or -----	3
354-141, Digital Computer Programming-----	2
479-581, Industrial Psychology or-----	2
479-582, Personnel Management-----	3

Emphasis Areas—Students must complete the required courses in at least two of the following emphases, along with the minimum elective requirements in those emphases.

LODGING MANAGEMENT EMPHASIS—required courses: Housekeeping Management; Front Office Operations; Lodging, Group and Convention Sales; Bar Management; Hospitality Industry Financial Analysis and Budgeting; and Integrated Management Systems for Hospitality Industries.

RESTAURANT MANAGEMENT EMPHASIS—required courses: Haute Cuisine; Bar Management; Food and Beverage Sales; Food Service Equipment; Hospitality Industry Financial Analysis and Budgeting; and Integrated Management Systems for Hospitality Industries.

SALES EMPHASIS—required courses: Lodging Group and Convention Sales; Food and Beverage Sales; Bar Management; Tourism Attractions and Destination Development; Hospitality Industry Financial Analysis and Budgeting; and Integrated Management Systems for Hospitality Industries.

TOURISM EMPHASIS—required courses: Tourism Attractions and Destination Development; Role of Tourism Oriented Products (TOP in Movement and Expansion of the Industry); Entrepreneurial and Governmental Organization/Marketing Concepts of Tourism; and Sociology of Tourism Phenomenon.

GENERAL HOSPITALITY EMPHASIS: This emphasis permits the student with a particular career orientation not covered by the other emphases to construct an individually designed emphasis through consultation with the program director. Determination of credits to be awarded for industry experience under this emphasis will be made by a committee composed of the program director, two faculty members and two industry representatives with specialized knowledge in the area to be evaluated.

SCHOOL OF LIBERAL STUDIES

Dwight L. Agnew, Ph.D., Dean

Programs:
 Applied Mathematics
 Art
 Art Education
 Marketing and Distributive Education

APPLIED MATHEMATICS

The role of mathematics in our modern scientific-technological society is basic and essential. Mathematics and mathematical thought are recognized and valued by industry and business. There is an increasing demand and need for graduates with training in Applied Mathematics.

The program in Applied Mathematics provides a strong foundation in academic mathematics essential to application and to possible graduate study. The Applied Mathematics core includes mathematical models, computer science and statistics — three areas most common in industry and business. A related core of study, industrial and business offerings, provides an orientation to these major forces in our culture. Broad offerings in liberal studies round out the undergraduate program.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation	130 credits
Required in liberal studies	57-60 credits
Required in mathematics.....	31-34 credits
Required in applied mathematics.....	16-19 credits
Required in a related core.....	20-23 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—57-60 credits required

Course	Credit
Fine Arts (Art, Music or Theatre)	3-4
English (326-101 and 102, or 326-111 and 112, and at least one course in literature)	12
Physical Education (366-101 and 367-lxx)	3
Psychology.....	3
Science (Biology, Chemistry, Physics or a combination)	16
Social Science (Two of the following disciplines in addition to six credits in Economics: Anthropology, Geography, History, Sociology, or Political Science)	12

Speech (391-100)-----	2
Electives (Philosophy, Foreign Language or any of the above areas) -----	8

BASIC MATHEMATICS CORE—31-34 credits required

355-156 and 157, Calculus and Analytic Geometry I and II -----	10
355-262, Modern Geometry -----	3
355-275, Linear Algebra -----	3
355-370, Modern Algebra I -----	3
355-450 and 451, Real Analysis I and II -----	6
<i>Select balance of required credits from the following:</i>	
355-158, Calculus III -----	3
355-255, Differential Equations -----	3
355-460, Complex Variables-----	3
355-371, Modern Algebra II-----	3

APPLIED MATHEMATICS—16-19 credits required

354-490 and 491, Mathematics Models I and II -----	4
<i>Selected balance of required credits from the following:</i>	
354-130, Computational Statistics -----	2
354-141, Digital Computer Programming -----	2
354-240, Intermediate Computer Programming -----	3
354-241, Assembly Language Programming -----	2
354-331, Probability and Mathematical Statistics I and II -----	6
354-430 and 431, Industrial Statistics I and II-----	4
354-245, Numerical Methods or -----	2
354-445, Numerical Analysis -----	3

RELATED CORE CONCENTRATIONS—20-23 credits required

Each student must select a related core from the following: Production Management; Electronics with elective areas of control, circuit, computer or communication; Business Administration with elective areas or Economics, Finance, Marketing or Data Processing.

ELECTIVES

While completing an Applied Mathematics major and a related core, a student may complete the requirements for a minor in Computer Science, Business Administration, Physics, Chemistry or Biology.

ART

The Art curriculum provides students with experiences in studio work, art history and liberal studies. It also offers basic and broad experiences for those who pursue goals in higher education or specific design fields. Majors in Art may take courses in Interior Design and related areas in preparation for professional work in the field. The program entails extensive work in major studio areas and provides the needed breadth of experience during the freshman and sophomore years. It

permits numerous elective courses during the junior and senior years, enabling the student to become involved in depth, with a studio area of their choice. Students enjoy considerable flexibility in determining a program suitable to their interests. Elective choices may be made from course offerings from other departments. The art history and liberal studies requirements, considered essential for the education of the artist, are also elective in nature with broad offerings in both areas. A 2.25 grade point is necessary for graduation. Students earn a Bachelor of Science degree upon successful completion of the program. All Art majors are required to present an exhibition of their work during their senior year.

GENERAL REQUIREMENTS—B.S. DEGREE

Total for graduation	132 credits
Required in liberal studies	62-64 credits
Required in major studies	61 credits
Electives	9 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—62-64 credits required

Course	Credit
English (326-101 and 102, or 326-111 and 112, and 326-250)	9
Speech (391-100)	2
Art (304-522 and 304-607)	6
Science-Mathematics core or equivalent	4-6
Physical Education (367-lxx)	2
<i>Select 8-10 credits from the following areas: Literature, Foreign Language, Philosophy or Speech.</i>	
<i>Select 8-10 credits from the following areas: Science, Mathematics, or Psychology.</i>	
<i>Select 8-10 credits from three of the four following areas: History, Sociology, Economics or Political Science.</i>	
<i>Select 15 credits from Art History courses.</i>	

MAJOR STUDIES*—61 credits required

304-101, Fundamentals of Design	3
304-100, Drawing	3
304-500, Drawing	1-3
304-513, Ceramics	3
304-514, Ceramics	3
304-509, Painting	3
304-510, Painting	1-3
304-511, Sculpture	3
304-512, Sculpture	1-3
304-515, Art Metal	3
304-516, Art Metal	1-3
304-517, Printmaking	3
304-518, Printmaking	3
304-501, Life Drawing	3
304-502, Life Drawing	1-3
Studio electives	19

ELECTIVES—9 credits required

From Liberal Studies courses offered at Stout or those approved for transfer.
 *Two semesters of study in each major studio area are required. However, students are permitted to omit the second semester of any one studio area with the exceptions of 304-500, Drawing, and 304-502, Life Drawing.

ART EDUCATION

The Art Education program offers a curriculum designed to provide broad experience in studio areas, art history and liberal studies, as well as appropriate experience in Art Education. Much of the program is of an elective nature, permitting the individual to develop a course of study suitable to personal needs and to gain depth in areas of one's interest. No distinction is made between Art (non-teaching) and Art Education students during the first two years of study; the Art core and liberal studies requirements are the same for both programs.

A student must decide by the junior year which program to pursue. The education curriculum is taken at that time. Art education theory courses and student teaching are taken concurrently and comprise a full semester's study during the senior year.

Successful completion of the Art Education program qualifies the graduate for certification by the State Department of Public Instruction for teaching and supervision in elementary and secondary schools. A 2.25 overall grade point average and a 2.5 grade point average in Art Department courses are required for admission to student teaching. Students who complete the program receive a Bachelor of Science degree. All art majors are required to present an exhibition of their work during their senior year.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation	130 credits
Required in liberal studies	59 credits
Required in major studies	51 credits
Required in professional education	20 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—59 credits required

Course	Credit
English (326-101 and 102, or 326-111 and 112, and 326-250)	9
Speech (391-100)	2
Art (304-522 and 304-607)	6
Science-Mathematics core or equivalent	4-6
Physical Education (367-lxx)	2
<i>Select 8-10 credits from the following areas: Literature, Foreign Language, Philosophy or Speech.</i>	
<i>Select 8-10 credits from the following areas: Science, Mathematics or Psychology.</i>	

Select 8-10 credits from three of the four following areas: History, Sociology, Economics, Political Science, Anthropology or Geography.
Select 9 credits from Art History courses.

MAJOR STUDIES*—51 credits required

304-101, Fundamentals of Design	3
304-100, Drawing	3
304-500, Drawing	1-3
304-501, Life Drawing	3
304-513, Ceramics	3
304-514, Ceramics	3
304-509, Painting	3
304-510, Painting	1-3
304-511, Sculpture	3
304-512, Sculpture	1-3
304-515, Art Metal	3
304-516, Art Metal	1-3
304-517, Printmaking	3
304-518, Printmaking	3
Studio electives	12

PROFESSIONAL EDUCATION—20 credits required

421-303, Educational Psychology	2
421-422, Principles of Secondary Education	2
405-608, Introduction to Teaching Art in Elementary Schools	3
405-609, Introduction to Teaching Art in Secondary Schools	3
405-611, Curriculum Development	2
405-408, Student Teaching-Elementary School	4
405-409, Student Teaching-Secondary School	4

*Two semesters of study in each major studio area are required. However, students are permitted to omit the second semester of any one studio area with the exceptions of 304-500 Drawing and 304-502 Life Drawing.

MARKETING AND DISTRIBUTIVE EDUCATION

Distributive Education is one area of the total field of vocational education supported by local, state and federal funds. Teachers graduating with this major are prepared to teach marketing at the technical school level and distributive education subjects at the high school level.

The field of distribution requires training for proprietors, managers and employees engaged primarily in marketing or merchandising goods and services. Distributive Education provides the training for this segment of our work force.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation 131 credits

- | | |
|---|------------|
| Required in liberal studies----- | 60 credits |
| Required in major----- | 35 credits |
| Required in professional education----- | 26 credits |
| Electives----- | 10 credits |
2. Although it is not a requirement for graduation, students should be aware of the fact that they must acquire a minimum of 2,000 hours of acceptable occupational experience before they can be certified for teaching vocational distributive education in Wisconsin.
 3. Students must fulfill the English adequacy and speech proficiency requirements.
 4. Specific course requirements and additional information about minors and/or concentrations can be obtained from the program director.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—60 credits required

Course	Credit
English (326-101 and 102, or 326-111 and 112, and one course in literature)-----	9
Speech (391-100 and one of the following: 391-200, 391-202, 391-204, 391-508, or 391-512)-----	4
Psychology (479-110)-----	3
Physical Education (366-101, 367-lxx)-----	3
Art (304-101)-----	3
Social Science (320-210, 320-215, 375-210, 387-110 and one course in history) --	15
Science (Biology, Chemistry or Physics)-----	7-8
Mathematics (to total 12 credits with science courses)-----	4-5
Music or Theatre-----	2
Electives (Philosophy, Foreign Language or any of the above areas)-----	9

MAJOR STUDIES—35 credits required

150-150, Industrial Organization-----	2
309-330, Principles of Marketing-----	3
309-206 and 207, Principles of Accounting-----	6
309-370, Principles of Advertising-----	3
309-245, Business Data Processing-----	3
309-325, Business Statistics-----	3
309-334, Salesmanship and Sales Management-----	3
309-318, Business Law-----	3
309-679, Marketing Research-----	3
309-323, Retail Merchandising and Management-----	3
479-582, Personnel Management-----	3

PROFESSIONAL EDUCATION—26 credits required

421-303, Educational Psychology-----	2
421-422, Principles of Secondary Education-----	2
469-602, Principles of Vocational Education-----	2
416-304, Introduction to Teaching Distributive Education-----	3
413-501, Introduction to Guidance-----	2
416-404, Curriculum Development in Distributive Education-----	5

416-408, Student Teaching in Distributive Education-----	8
469-560, Cooperative Occupational Education Programs -----	2

ELECTIVES—10 credits required

From courses offered at Stout or those approved for transfer.

SCHOOL OF EDUCATION

John B. Stevenson, Ph.D., Dean

Programs:

Psychology
Vocational Rehabilitation

PSYCHOLOGY

Psychology, as defined within the program at Stout, is the systematic study of behavior with particular emphasis on the behavior of individual humans—their actions, reactions, and cognitions. The basic purpose of the study of Psychology at Stout is to learn how to help improve the condition of man. The program provides students with the learning experiences that lead to eventual employment wherever Psychology is applied in educational institutions, public and private institutions, and industry. Students in the program should realize that they must obtain graduate-level education or other advanced training experiences before they can be considered professional psychologists.

Each student in the program studies the major components of man's behavior and existence: his development, learning, perception, motivation, personality, relationships, decision making, evaluation behaviors, valuing behaviors, and communications. The principal guide for each student's individualized course of study is his development within eight competency areas: knowing, perceiving, relating, planning, doing (carrying out plans), evaluating, judging relevance, and communicating as they relate to the major components mentioned above. To graduate, the student must have developed his competencies in these areas at a high enough performance level to gain admission to a graduate or professional school or to enter directly into related employment. In addition, each student is expected to develop a high degree of literacy in the areas of the Arts, Humanities, and Sciences.

GENERAL REQUIREMENTS—B.A. DEGREE:

Total for graduation -----	130 credits
Required in liberal studies -----	70 credits
Required in major studies -----	40 credits
Electives -----	20 credits

PROGRAM PLANNING

All students in the Psychology program prepare and submit a tentative plan for the remainder of their undergraduate program as a part of their activities in Psychology Seminar I. This tentative plan is based on their particular personal, vocational, and professional interests and goals and is developed with the guidance of the Psychology faculty.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—70 credits required

Select at least 25 credits in Communications. Suggested courses include fundamental English courses and advanced writing courses; fundamental and advanced speech courses; foreign languages; basic statistics; computer programming; journalism; rhetoric; graphic arts; audio-visual communications; and reading courses.

Select at least 15 credits in Fine Arts, Physical Education, and Humanities. Suggested courses include art and music appreciation; literature courses; and philosophy.

Select at least 15 credits in Mathematics and Natural and Physical Sciences. Suggested courses include at least one college-level math course and one laboratory science course. Courses in community hygiene; genetics; physiology and anatomy; ecology; and organic chemistry are appropriate here. Applied Math courses cannot be used for electives in this category, but with planning, may be used as Communications credit.

Select at least 15 credits in Social Sciences. Suggested courses include at least one sociology course and a balance of courses in history; geography; economics; government and anthropology.

MAJOR STUDIES—40 credits required

Beginning courses to be taken simultaneously are Psychology Seminar I and Psychological Methods I along with one or more of the other introductory psychology courses. All students must register each semester for an appropriate level of Psychology seminar.

Course	Credit
Required courses: (introductory courses for all majors)	
479-100, Psychology Seminar I -----	1
479-110, General Psychology -----	3
479-120, Psychology: Its History and Systems -----	3
479-150, Man: A Course of Study -----	3
479-190, Psychological Methods I -----	3
Other required courses:	
479-300, Psychology Seminar II -----	1
479-400, Psychology Seminar III -----	1
479-x99, Independent Study -----	1-2
479-x98, Field Experience -----	2
Elective courses: (taken concurrently with Seminar II)	
479-251, Child Psychology -----	3
479-260, Personality and Mental Health -----	3
479-390, Experimental Psychology -----	3
479-530, Psychology of Learning -----	3
479-632, Perception -----	3

479-540, Differential Psychology	3
479-552, Adolescent Psychology	3
479-561, Abnormal Psychology	3
479-562, Psychology of the Exceptional Child	2
479-571, Psychology of Marriage and the Family	2
326-541, Psycholinguistics	3
308-520, Comparative Ethology	2
387-250, Social Psychology	3
303-220, Introduction to Cultural Anthropology	3
Elective courses: (taken concurrently with Seminar III)	
479-581, Industrial Psychology	2
479-690, Psychological Measurement	3
479-582, Personnel Management	3
413-501, Introduction to Guidance (and one other 413 course)	2
421-303, Educational Psychology (and one other 421 course)	2
459-201, Introduction to Rehabilitation (and one other 459 course)	3

MINOR STUDIES—22 credits required

A student in the Psychology program may elect to complete one of the minor programs offered by various departments at Stout. It is quite common for minor program requirements to overlap the requirements in both the Liberal Studies area and the Major Studies area of the Psychology program.

ELECTIVES—20 credits required

The number of electives taken in this category depends upon the student's choice of minor and course load. Many courses in the School of Home Economics and the School of Industry and Technology help students develop competencies needed in Psychology. These are suggested to students in seminars and separate communications.

SENIOR THESIS

As a culminating experience of the program, in conjunction with Seminar III, each student conducts and reports an original research project regarding some aspect of behavior. This project provides the opportunity for the student to practice the skills he has acquired and to apply the knowledge he has attained in his studies.

VOCATIONAL REHABILITATION

This is the only undergraduate major in rehabilitation in Wisconsin. The purpose of the program is to prepare students with the knowledge and competencies to be employed in a variety of agencies designated to help handicapped and disadvantaged people. Handicapped persons include those with physical disabilities, mental illness, mental retardation, blindness, deafness, alcoholism, epilepsy, and those who have committed criminal offenses. Disadvantaged persons are those who have been handicapped due to poverty and neglected environment. Graduates qualify for a wide range of employment opportunities in the rehabilitation professions, including work evaluation and training positions, counseling and casework positions, and administrative positions (after obtaining some experience). Employing agencies include sheltered workshops, rehabilitation

centers, institutions, hospitals, state rehabilitation and employment agencies, voluntary organizations and industry. Opportunities for advancement to supervisory and administrative positions are excellent. Graduate study in rehabilitation is available in more than 80 colleges and universities.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for Graduation----- 130 credits
 Required in liberal studies----- 40 credits
 Required in major studies----- 40-44 credits
 Required in special studies*----- 28-32 credits
 Electives----- 18-20 credits
 *The student must select a special studies concentration from either business, home economics, industrial arts and technology, or physical education. Courses in these areas are designed to provide the specific technical skills for working with the handicapped and disadvantaged in rehabilitation settings.
2. Students majoring in rehabilitation must obtain a grade of "C" or better in all courses taught in the rehabilitation department. The student will have the option of taking the course over again and obtaining a "C" or better or dropping from the program. In addition, an overall grade point average of 2.25 is required for all courses taught by the rehabilitation department.
3. Students must fulfill the English adequacy and speech proficiency requirements of the respective departments.
4. Provisions can be made to obtain a dual major in Vocational Rehabilitation and Early Childhood Education. This program is designed to prepare the student for working in day care-work activity programs (for handicapped children, adolescents and adults) and home training programs.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—40 credits required

Course	Credit
326-101 and 102, and 326-345 or 346 or 347, English-----	9
391-100, Speech-----	2
479-110, Psychology-----	3
387-110, Social Science, and two of the following: 338-220, 375-210 or 320-201-----	9
308-132, Science and one elective-----	6-7
367-1xx, Physical Education elective-----	2
Electives (one course each from three of the following areas: Art, Music, Theatre, Math, Literature, Foreign Language or Philosophy)-----	8-9

MAJOR STUDIES—40-44 credits required

459-201, Introduction to Rehabilitation-----	3
459-202, Community Resources-----	3
459-301, Rehabilitation Practicum-----	2

387-560, Juvenile Delinquency	3
479-561, Abnormal Psychology	3
459-x98, Field Experience or	2
459-x99, Independent Studies	2
459-503, Physical Disability and Work	3
459-601, Rehabilitation Methods I: Evaluation	3
459-602, Rehabilitation Methods II: Adjustment	3
459-400, Rehabilitation Seminar	1
459-585, Mental Retardation	2
Restricted electives	12-16

SPECIAL STUDIES—28-32 credits required from one of the four following specialties:

INDUSTRIAL TRACK

150-150, Industrial Organ.	2
309-206, Accounting	3
Educational Methods Course with approval of program director	2
170-101, Processes: Concepts; 170-202, Metals and 170-250, Plastics	4-6
110-102, Electricity	2
130-140, Graphic Arts	2
Industrial electives	4-8
Production Management restricted electives	7-11

BUSINESS TRACK

170-304, Industrial Crafts	2
150-150, Industrial Organ.	2
Educational Methods Course with approval of program director	2
309-206, Accounting I	3
309-207, Accounting II	3
309-304, Business Management	3
309-330, Marketing	3
320-210, Economics I	3
320-215, Economics II	3
Restricted electives	4-8

HOME ECONOMICS TRACK

170-304, Industrial Crafts	2
150-150, Industrial Organ.	2
Educational Methods Course with approval of program director	2
<i>Select two of the three following courses:</i>	
212-124, Child Development	3
212-250, Family Relationships I	3
212-264, Child Guidance	2

Select 8-10 credits from the offerings of the Department of Habitational Resources. Select 6-10 credits from Food Service and Nutrition and/or Apparel, Textiles and Design.

PHYSICAL EDUCATION

170-304, Industrial Crafts -----	2
150-150, Industrial Organ.-----	2
Educational Methods Course with approval of program director -----	2
367-215, Gymnastics -----	2
367-225, Individual and Dual Sports -----	2
367-226, Individual and Dual Sports -----	2
367-235, Rhythmical Activities -----	2
367-245, Team Sports -----	2
366-340, First Aid and Safety-----	2
367-370, Elementary School Phy. Ed-----	2
367-212, Foundations of Phy Ed. -----	1
Independent Studies -----	2
Phy. Ed. restricted electives -----	5-9

ELECTIVES—18-20 credits required

From courses offered at Stout or those approved for transfer.

MINORS

Art

Biology
Business Administration
Chemistry
Computer Science
Economics

English
History
Journalism
Mathematics
Physical Education (Women)

Physics
Psychology
Safety
Sociology
Speech

Minors are defined as teaching and non-teaching. Teaching minors are those approved by the State Department of Public Instruction for certification. A graduate can be certified for a teaching minor, however, only if he has an education major. Programs for minors must be approved by the department offering the minor.

ART

Twenty-three or 24 semester hours are required. Required courses are 304-101, 304-100, 304-509, 304-511 and 304-522. The additional eight or nine credits may be accumulated for the minor by taking any studio or art history courses offered by the Art Department.

BIOLOGY

A minor in Biology may be completed as a teaching or a non-teaching minor. A teaching minor consists of 22 semester hours of biology plus one semester of inorganic chemistry (311-115 or 311-135). The required courses in biology for the teaching minor are 308-132, 308-142, 308-152 and 308-206. Additional courses to complete 22 semester hours of biology will be selected. Of these no more than two of the courses 308-150, 308-332 and 308-342 will be acceptable. The course 308-122 is acceptable only when taken before the courses 308-142 and 308-152.

A non-teaching minor consists of 22 semester hours of biology. The required courses in biology are 308-132, 308-142, 308-152 and 308-206. Additional courses to complete 22 semester hours of biology will be selected. Of these no more than two of the courses 308-150, 308-332 and 308-342 will be acceptable. The course 308-122 is acceptable only when taken before the courses 308-142 and 308-152. Inorganic chemistry is not required for the non-teaching minor.

All students entering a minor program in biology will be assigned a faculty advisor to aid the student in proper scheduling of courses.

BUSINESS ADMINISTRATION

A minor in Business Administration consists of 22 semester hours. Minor programs are to be approved by the department. Required courses are 309-206, 309-207, 309-304, 309-330, 320-210 and 320-215 (18 credits). Elective courses may be selected from any business course or other course(s) approved by the Department of Business Administration (four credits).

CHEMISTRY

Twenty-two semester hours are required. Required courses are 311-115 or 311-135; 311-136 and 311-201. Chemistry minors who plan to obtain teaching certificates are required to select 311-531, 311-501 and 311-503. Additional chemistry courses will be selected.

COMPUTER SCIENCE

A minor in Computer Science requires 355-120 or 365-301; 354-141, 354-240, 354-241 and Independent Study. Additional courses will be selected.

ECONOMICS

Students may elect a 22-credit minor in Economics either for teaching or non-teaching. Required courses are 320-210, 320-215, 320-410 and 320-415. Additional economics courses and 309-325 and 338-520 will be selected.

ENGLISH

A minor in English consists of 22 semester hours. All English minor programs must be approved by the Department of English.

Students who wish to be certified to teach English must take a teaching minor in English. A teaching minor in English must include the following courses: 326-340, 326-344, 326-348, 326-400 and 326-401. Additional English courses, excluding 326-101 and 326-102, will be selected; 326-111 and 326-112 may be included. One course in speech, either 391-202, 391-334, or 391-338, may be included.

A non-teaching minor in English for those who do not wish to be certified to teach is taken with an option in either literature or writing.

The non-teaching English minor with an option in literature must include one course in English Literature and one course in American Literature. The remaining 16 credits may be selected from the other literature offerings; one advanced writing course may be included, 326-347 is suggested.

The non-teaching minor in English with an option in writing includes courses from the following blocks: (1) language (a minimum of three semester hours), (2) literature (a minimum of six semester hours), and (3) writing (a minimum of 11 semester hours).

HISTORY

Students may elect a 22-credit minor in history either for teaching or non-teaching. Required courses are 338-120, 338-121, 338-140 and 338-141. Additional history courses will be elected.

Students who take a teaching minor must include two out of the following courses: 338-360, 338-380 and 338-522.

JOURNALISM

Twenty-two semester hours are required. Required courses are 326-306, 326-518, 326-410, 326-515 or 326-516; 326-425, 421-679, 130-140 and 107-504. Additional courses will be selected from 326- (any literature course numbered 200 or above), 304-101, 130-475, 375-210, 338-220, 338-210, 387-515, 375-310, 391-554, 391-244, Field Experience and Independent Study.

MATHEMATICS

Twenty-two semester hours are required. Minor programs are to be approved by the department. Courses required for teaching certification are: 355-153 or 355-156; 355-262, 355-275, 354-331 and 355-370. Additional courses will be selected.

PHYSICAL EDUCATION - WOMEN

Twenty-two semester hours are required. Students select a minimum of eight

credits from 367-215, 367-225, 367-226, 367-235, 367-241, 367-342, and 367-245, and a minimum of five credits from 308-342, 366-101, 367-325, 367-340, 367-345, 367-370, 367-375, and 367-380. Required courses are 366-340 or 366-350, 367-212 and 308-132. For teacher certification in physical education, the student must also take 367-408.

PHYSICS

Twenty-two semester hours are required. Required courses are 372-221, 372-222, 372-223, and 372-529. At least eight credits with a 500 number or greater must be included in the minor program. All minor programs must be planned with and approved by the Physics Department.

PSYCHOLOGY

Twenty-two semester hours are required. Required courses for 11 semester credit hours include: 479-110; 479-260 or 479-561; one of the following: 479-190, 479-690, 421-541, 413-690, or 354-130; 479-251 or 479-252. Courses from which to select 11 or more semester credit hours include: any of the courses listed above not already taken; 479-120, 479-150, 479-390, 479-530, 479-532, 479-540, 479-562, 479-571, 479-581, 479-582, 413-655, 413-675, 413-691, 421-303, 459-585, 303-220, 387-250, 326-541, 308-520, Field Experience and Independent Study in Psychology.

SAFETY

Twenty-two semester hours are required. Required courses are 110-271, 110-375, 110-376 and 110-578. Ten additional credits should be selected from the following courses: 110-210, 366-101, 421-303, 407-560, 190-205 or equivalent and 413-501.

SOCIOLOGY

Twenty-two semester hours are required. Required course is 387-110. Additional sociology courses will be selected. 479-571 may be included.

SPEECH

A teaching minor in Speech consists of 22 semester hours. Required courses are 391-100 and 391-200. Additional speech courses will be selected. One literature course from the English Department may be included when the course is approved by the Speech Department.

A non-teaching minor consists of 22 semester hours with the four following options: General Speech, Communication and Public Address, Radio-Television-Film, and Theatre. Each minor includes a minimum of 10 semester hours in the

option, plus 12 semester hours from the remaining three areas. A literature course may be included.

All speech minors must be planned with and approved by the Speech Department.

BLOCKS

HOME ECONOMICS

Fifteen credit blocks are available in any subject-matter area. After selecting an area of concentration, students must consult with their advisor to work out the most beneficial program.

INDUSTRIAL ARTS EDUCATION AND VOCATIONAL TRADE AND INDUSTRIAL EDUCATION

Fifteen credit blocks are available in Communications, Mathematics, Science, Social Science, Art and Psychology. After selecting an area of concentration, students must consult with their advisor to work out the most beneficial program.

THE COURSE DESCRIPTIONS

The courses on the following pages are listed in numerical order with the School of Industry and Technology courses beginning with 100; Home Economics—200; Liberal Studies—300; and Education—400. Audio-Visual courses can be found at the end of the course description section.

INDUSTRY AND TECHNOLOGY

INTERDEPARTMENTAL

100-490 TECHNICAL SERVICE SCHOOLS 1-6 Cr. Many manufacturers offer special purpose technical courses. Some of them are suitable for college credit. The following guidelines are used to award such credit: (1) The student makes all the arrangements with the manufacturer offering the course; (2) Credit is awarded on the basis of one credit for each full week (40 clock hours) of attendance; (3) Students must be enrolled and pay fees at the University prior to taking the course; and (4) Approval by the dean will be necessary prior to enrollment for credit.

ENERGY AND TRANSPORTATION

110-101 ENERGY IN INDUSTRY 2 Cr. Conceptual study, including application and experimentation of the environmental quality which provides the ability or capacity to do work.

110-102 ELECTRICITY 2 Cr. Principles of electricity as applied to power generation distribution and use. A study of direct and alternating current circuits, controls, capacitance, induction, transformers, polyphase systems,

and measurement of electrical quantities. Prerequisite: 355-120 or equivalent.

110-103 POWER MECHANICS 2 Cr. Basic sources of energy, transformation into useful power, and application of power to do useful work.

110-143 DC AND AC CIRCUIT ANALYSIS 3 Cr. Circuit theorems, applications of complex algebra, resistive circuit analysis, AC circuit analysis, Bode plot, transient analysis, and transformer analysis. This is a theoretical course; no laboratory is required. Prerequisites: 110-101 or 110-102, 355-121.

110-201 TRANSPORTATION 2 Cr. Development of the concept area of transportation as related to the need, preparation, methods, destination and control as it relates to American Industry.

110-209 POWER MECHANICS—SMALL ENGINE SERVICE 2 Cr. Mechanical principles and functions of small power units. Operation, maintenance, tune-up and overhaul procedures of small two- and four-cycle engines.

110-210 GENERAL MOTOR MECHANICS 2 Cr. Consumer knowledge on automobile chassis, internal combustion engine components, fuels, ignition, suspension, and drive systems including service and adjustment techniques.

110-211 ELECTRICAL CIRCUITS AND ACCESSORIES 2 Cr. Automotive starting, generating, ignition, and accessory circuits. Test and repair techniques with emphasis on batteries, cranking, charging and accessory units.

110-240 ELECTRONICS 2 Cr. Solid state rectifiers, amplifiers, oscillators and associated input and output devices. Concepts of electronic communications and application of equipment to selected problems are also studied. Not applicable to the electronics concentration. Prerequisite: 110-101 or 110-102.

110-243 SEMICONDUCTOR ELECTRONICS 3 Cr. An analytical study of semiconductor physics, P-N junction diodes, CE, CB, CC configuration analysis, biasing and stabilization, graphical analysis, Z, Y, H and G equivalent circuit, T-models, R.F., A.F., and DC circuit analysis. Laboratory work is required. Prerequisite: 110-143.

110-244 ELECTRONIC CIRCUITS 3 Cr. General electronic circuits, amplifiers, oscillator, wave-shaping circuits, power supply circuits and instrumentation. Laboratory work is required. Prerequisite: 110-143.

110-248 ELECTRIC MACHINERY 3 Cr. Energy conversion theory, rotating machinery concept, engineering consideration, DC motors, synchronous machines, induction machines, fractional horsepower motors and speed control techniques of motors. Prerequisite: 110-143.

110-256 DIGITAL COMPUTER SYSTEMS 3 Cr. Linear wave shaping, pulse transformers and delay lines, steady state switching, clamping and clipping circuits, switching circuits, logic circuits, multi-vibrators, time base generators, sampling gates. Laboratory work is required. Prerequisite: 110-243 or 110-244.

110-260 INTRODUCTION TO FLUID POWER 2 Cr. Fundamentals of fluid

circuits with emphasis on the components: pumps, reservoirs, lines, control valves, and actuators. Prerequisite: 110-260.

110-362 INDUSTRIAL PNEUMATICS

2 Cr. Theory, operation, and construction of components common to pneumatics and pneumatic-hydraulic systems with application to basic industrial circuits. Components considered: compressors, plumbing, control valves, and actuators. Prerequisite: 110-260.

110-363 FLUID POWER MEASUREMENT AND CONTROL

2 Cr. A study of measurement and control devices as they relate to circuit and systems control with special concern with flow, pressure, speed and torque. Mechanical, electrical, pneumatic and fluidic controls are studied. Prerequisites: 110-260 and 110-360.

110-375 DRIVER AND TRAFFIC SAFETY EDUCATION

3 Cr. Introduction to history, objectives, and instructional content and methods of traditional driver and traffic safety education programs. Laboratory experience involving instruction of student driver in dual controlled vehicles. Prerequisite: Valid Driver's License.

110-376 ADMINISTRATION OF DRIVER AND TRAFFIC SAFETY EDUCATION

3 Cr. Comprehensive programming of driver and traffic safety education programs. Emphasis on simulation, range, adult programs, instruction, and psychology of driver. Simulation laboratory experiences included. Prerequisite: 110-375.

110-577 DRIVER IMPROVEMENT PROGRAMS **2 Cr.** The improvement of drivers through educational methodology, curriculum planning, and

research. Special attention given to adult programs, mentally retarded, orthopedically handicapped, as well as the chronic violator and the accident repeater.

110-578 TRAFFIC AND HIGHWAY SAFETY PROGRAMS

3 Cr. An overview of the traffic and highway safety problems, components, research agencies, national, state and local policies, standards, and recommendations for improved traffic safety. Prerequisite: 110-271.

110-581 PRINCIPLES OF INDUSTRIAL SAFETY

3 Cr. An overview of occupational accident prevention programs. Emphasis on techniques of measurement, cost of accidents, locating and identifying accident sources, psychology of occupational safety and problems of selecting corrective action.

110-582 INDUSTRIAL SAFETY PROGRAMMING

3 Cr. In depth study of current administrative, organizational, and supervisory practices which are specifically and uniquely related to managing the operational, industrial or occupational accident prevention program.

110-611 TUNE-UP AND DIAGNOSIS

2 Cr. Practicum in automotive tune-up and diagnostic service procedures, service operations with all types of modern automotive test equipment. Prerequisites: 110-211, 110-311 and 110-314.

110-614 TRANSMISSION AND DRIVE TRAINS

2 Cr. Power transmission through gears, clutches and drives common to the automobiles. Fluid couplings, gear sets, differentials, transmissions and drive lines. Prerequisite: 110-314.

110-615 ENGINE MACHINING AND REBUILDING 3 Cr. The rebuilding of four-stroke cycle engines including all necessary precision machining. Special emphasis given to cylinders, blocks, valve trains and reciprocating parts.

110-625 AUTO SHOP MAINTENANCE AND MANAGEMENT 3 Cr. Maintenance and management of equipment and personnel peculiar to the auto shop.

110-630 AEROSPACE 3 Cr. Classroom, field and optional flight experiences for educators who wish a better understanding of today's aviation or aerospace industries, details of space exploration, federal licensing regulations, air traffic control, and related career guidance information.

110-631 PRIVATE PILOT'S GROUND SCHOOL 3 Cr. Prepares the beginning flight student for an F.A.A. Private Pilot's Certificate through the study of airplane utility, flight manuals, safety, federal aviation regulations, navigation, communication, weather, general operation of aircraft and flight theory.

110-635 INTRODUCTION TO FLIGHT 2 Cr. Development of skills and knowledge of flying a single engine aircraft. Instruction includes applied flight theory, dual flight instruction and solo flight. Prerequisite: 110-631.

110-650 ELECTRONIC CONTROL SYSTEMS 3 Cr. General electronic control systems, sensing devices, control devices, sequence control, basic feedback control principles, analog computation and control, numerical controls. Laboratory work is required. Prerequisite: 110-345.

110-653 COMMUNICATION SYSTEMS 1 3 Cr. An analytical study of

communication transmission and receiving systems, the circuits and design techniques of systems, signal transmission systems, signal receiving systems, and applied techniques. Laboratory work is required. Prerequisites: 110-345, 110-353.

110-656 PULSE AND SWITCHING CIRCUIT ANALYSIS 3 Cr. An analytical study of electronic circuit design, philosophy of circuit design, general design procedures, C.C. and low frequency design, high frequency design, digital circuit design, switching circuit design, power supply, analog computer design, circuit evaluation techniques. Laboratory work is required. Prerequisites: 110-256, 110-345.

110-660 FLUID POWER SYSTEMS DESIGN 3 Cr. Introduction to fluid power systems design through problem solving in areas of load analysis, circuit control, and component selection. Prerequisites: 110-360, 110-362 and 110-363.

GRAPHIC COMMUNICATIONS

130-100 COMMUNICATIONS 2 Cr. Development of the concept area of communication source, message, receiver, feedback, and interference; study of graphic, electronic, human and media systems of communication.

130-110 DRAFTING 2 Cr. A graphic communication involving projection concepts to correctly represent three-dimensional forms on two-dimensional surfaces. Principles of shape description, size description, and drafting techniques are implemented through the utilization of problem solutions.

130-140 GRAPHIC ARTS 2 Cr. Broad concepts of the several methods of reproducing visual images. Includes study in design and layout, composition methods, photo-conversion techniques, image carrier devices, image transfer mechanisms, finishing and binding procedures, and economic highlights of the graphic arts.

130-180 HOSPITALITY, LIVING AND INSTITUTIONAL FACILITY PLANNING 2 Cr. Hotel and restaurant drafting involves the use of basic architectural drafting and design content, concepts, media, technique, and methods to record ideas, communicate ideas, and solve problems relevant to hotel and restaurant management.

130-212 DESCRIPTIVE GEOMETRY 3 Cr. The graphic representation and solution of space problems involving point, lines, planes, intersections, revolutions, and vectors. Prerequisite: 130-110.

130-213 MECHANICAL DRAFTING 2 Cr. Analysis, research and graphical solutions of selected mechanical design problems utilizing current industrial problem solving techniques and communications skills including: varied aspects of design drafting, manufacturing operations, identification of materials, standard parts, technical reports and reproduction processes. Prerequisite: 130-110.

130-221 ARCHITECTURAL DESIGN I 3 Cr. An introduction to architectural design through the solution of design problems: analysis of site and client's needs, preliminary sketches, presentation drawings and working drawings. Study of: contemporary residential architecture structural systems, nature of structural materials, residential codes, FHA minimum

property standards, frame construction, residential mechanical systems, lighting, electrical systems and estimating. Prerequisite: 130-110 or consent of instructor.

130-230 MECHANISMS 3 Cr. Graphical and analytical analysis and synthesis of linkages, cams and gear trains. Prerequisites: 130-212, 130-213, 372-221.

130-246 TYPOGRAPHY 3 Cr. The basic concepts of two-dimensional design and its relationship to typography in terms of the various printing mediums, art mediums, photography, layout and keylining, type classification and selection, composition practices, color systems and materials. Laboratory experiences with the various materials and techniques used in preparing copy for reproduction. Prerequisite: 130-140.

130-251 COMPOSITION 3 Cr. Major emphasis upon cold type composing procedures including impact, transfer, and photo-lettering. Limited attention given to hot type composing procedures as represented in foundry type and hot metal casting. Prerequisite: 130-140.

130-290 MECHANICS OF SOLIDS I 3 Cr. Introduction to applied mechanics including: Technical calculations, dimensional analysis, freebody diagrams, force systems and equilibrium, friction, elementary statically determinate framed structures, and simple stress. Graphical and mathematical methods will be used. Prerequisites: 372-221 and 355-154.

130-291 MECHANICS OF SOLIDS II 3 Cr. Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members, and columns. Prerequisite: 130-290.

130-325 ARCHITECTURAL DESIGN II 3 Cr. Programming and analysis, design solution and presentation and preliminary working drawings for light commercial and/or public buildings. Study of building codes (state and national), construction contract documents, structural materials and systems, building materials and systems and mechanical systems. Prerequisite: 130-221.

130-341 GRAPHIC COMMUNICATIONS PROCESSES 2 Cr. A course designed specifically for the general industrial arts teacher to better enable him to include graphic communications among units of study. Instructional experiences will include: Offset lithography, letterpress, and screen process with appropriate emphasis upon photography. Prerequisite: 130-140.

130-355 LINE AND HALFTONE PHOTOGRAPHY 2 Cr. A study of high contrast photography as it relates specifically to the graphic reproduction processes. Emphasis is upon line, halftone, duo-tone, and special effect film negatives and positives. Prerequisite: 130-140.

130-366 IMAGE TRANSFER 3 Cr. Image transfer is a course designed to introduce the concept of printing ink on paper or on other receptors such as plastic, cloth, or glass. It is a study in breadth of lithography, letterpress, gravure, and screen process image carriers, presses, and associated procedures used to transfer an inked image from a carrier to paper. Emphasis is placed on reproducing line and halftone copy, in one or more colors. Experiences are also encountered with step and repeat, multiple imposition, densitometry, ink, paper problems, rollers and quality control. Prerequisite: 130-140.

130-370 GENERAL BINDING 2 Cr. Study in depth of fastening and covering

printed materials. Includes mechanical, loose-leaf, wire staple, sewn and perfect binding methods. Prerequisite: 130-140.

130-414 TECHNICAL ILLUSTRATING 3 Cr. A study of concepts and drafting techniques to illustrate three-dimensional technical art forms. Axonometric and perspective drawings are used for the constructions and rendering techniques such as stippling, smudge, line, color, and air-brushing are utilized. Prerequisite: 130-212.

130-433 TOOL AND DIE DESIGN 2 Cr. The study of the design and applications for jigs and fixtures for lathes and mills. The study of milling cutters, lathe tools, boring bars, and gauges for checking work, die design, and punch presses. Prerequisite: 130-213, 372-325.

130-475 PRINTING ECONOMICS 2 Cr. Estimating production costs, specification of equipment, materials inventory and control, and the study of systems which expedite graphic reproductions. Prerequisite: 130-140.

130-527 TOPOGRAPHY 2 Cr. Calculate and convert previously compiled field work data into usable language for maps, profiles, and land descriptions. Prerequisite: 130-110.

130-531 MACHINE DESIGN 2 Cr. An introductory survey of machine design, including: Design philosophy and procedure, considerations of material properties, manufacturing processes, stress analysis, and characteristics of major machine elements. Prerequisite 355-121.

130-532 MECHANICAL DESIGN 4 Cr. A study of the design process. Analysis and design of machine elements including gearing, bearings, shafting,

and friction the idea to marketing the product. Procedure and techniques will be illustrated — some opportunity for laboratory work. Prerequisite: 130-213.

130-535 GRAPHIC ANALYSIS AND COMPUTATION 2 Cr. The study of fundamental graphical concepts, abstract graphic principles, formulas and equations, vector geometry, and graphical concepts as they apply to modern engineering technology. Prerequisite: 355-153 or 355-156.

130-543 GRAPHIC ARTS PRODUCTION TECHNIQUES 2 Cr. Study in depth of letterpress and screen process image transfer machines and associated procedures including printability of varied interceptors. Prerequisite: 130-366.

130-557 COLOR SEPARATION 2 Cr. Study of the nature of color and light. Color separation from reflected and transmission copy. Theory of filters, densitometry, and their relation to color separation. Direct and indirect photographic color separation methods. Prerequisite: 130-355.

130-592 MECHANICS OF MACHINERY I 3 Cr. The study of dynamics as applied to machinery including: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum; work, power, and energy balancing and vibration. Prerequisite: 130-290.

130-593 MECHANICS OF MACHINERY II 3 Cr. Graphical and analytical analysis and synthesis of linkages, cams, and gear trains, including displacement, velocity, acceleration, and dynamic forces. Prerequisite: 130-592.

130-615 INDUSTRIAL DESIGN WORKSHOP 2 Cr. Product design from the inception of the idea to marketing the product. Procedure and techniques will be illustrated — some opportunity for laboratory work. Prerequisite: 130-213.

130-629 ARCHITECTURAL DESIGN III 3 Cr. Area planning; problems oriented toward design solutions of building complexes: exterior space, land use, relationships between buildings and supporting facilities. Survey of contemporary regional and city planning and its historical roots. Prerequisite: 130-325.

130-636 COMPUTER ASSISTED DESIGN PROBLEMS 2 Cr. An introduction to the relationship of the computer to drafting and plotted design, design automation, introduction to mechanical design problem analysis for computers, mathematical and simulation models for use in the solution of mechanical design problems. Prerequisites: 354-141 and 130-230.

130-637 PRODUCT DEVELOPMENT 2 Cr. Independent research directed to the solution of a student-selected design problem requiring application of the sciences, industrial graphics, identification of manufacturing methods, marketing and cost analysis, and model or prototype construction when appropriate. Prerequisite: 130-230 or 130-221.

130-638 MECHANICAL DESIGN PROBLEMS 1-6 Cr. Design of a machine including: Specifications, scheduling design work, layout, calculations, bill of material and final report. Prerequisite: 130-532.

INDUSTRIAL MANAGEMENT

150-115 STRUCTURES AND CONCEPTS IN AMERICAN INDUSTRY 2 Cr. An introduction to American Industry structures and concepts; history of the project. Systems for structuring knowledge. The concept structure of research.

150-150 INDUSTRIAL ORGANIZATION 2 Cr. Survey of the basic functions and inter relationships of the major subdivisions of industrial organizations.

150-200 PRODUCTION MANAGEMENT 3 Cr. The manufacturing functions of Industrial Organization are expanded. A broad analytical "systems" viewpoint is used to develop competency in management decision making and problem solving.

150-223 RELATIONSHIPS 2 Cr. Development of the concept area of industrial relationships as related to the elements, associations, incentives and control aspects.

150-230 METHODS ENGINEERING 2 Cr. Introduction to Methods Engineering in business and industry, including better methods, process analysis, activity charting operation analysis, fundamental hand motions, micromotion study, motions economy, human engineering, standardizing job, work organization, paper-work simplification, and value engineering. Prerequisite: 150-150.

150-240 WORK MEASUREMENT 2 Cr. Introduction to Work Measurement techniques in industry including stop watch, work sampling, standard data and predetermined time systems particularly Methods Time Measure-

ment and Master Standard Data, and wage incentive plans. Prerequisite: 150-150.

150-310 PRODUCTION CONTROL 2 Cr. Introduction to industrial plant operations, production planning and control, forecasting, inventory control, production requirements, routing, scheduling, dispatching, and follow up. Prerequisites: 150-200 and 354-130.

150-314 PRODUCTION SYSTEMS 3 Cr. The organization and operation of an industrial company. The selection, designing, production planning, production, marketing and distribution of a product.

150-320 QUALITY CONTROL 2 Cr. General overview of Quality Control including: establishment of quality standards, inspection principles and organization, control chart theory and application, acceptance sampling, organizing for quality control. Prerequisite: 150-200, 354-130.

150-402 PHYSICAL FACILITIES 2 Cr. A conceptual study of the holdings and possessions of an enterprise necessary to produce a goods and/or service. It is designed to acquaint the students with the methods and techniques utilized by industry in planning, classifying, controlling, maintaining and disposing of property within their possession. The course will permit the students to plan and develop an instructional facility with equipment essential to the understanding and simulation of industrial techniques.

150-410 MANUFACTURING COST ANALYSIS 3 Cr. Introduction to principles of accounting, and concepts and techniques of cost analysis. Emphasis placed on application of cost information. Prerequisite: 150-200.

150-417 FINANCE AND PROCUREMENT IN INDUSTRY 2 Cr. A conceptual study of the considerations and techniques involved in procuring and controlling necessary funds and property essential to organize and operate an enterprise. The course is designed to provide the students with an insight into the location, needs, methods and control of funds and possessions necessary to maintain an enterprise.

150-440 PLANT LAYOUT AND MATERIALS HANDLING 3 Cr. Survey and application of the principles and methods used for solving plant layout and material handling problems. Prerequisite: 150-200.

150-500 ENGINEERING ECONOMY 3 Cr. Analysis of the source and application of funds, including cost control, valuation, depreciation, replacement theory, and taxation.

150-510 PRODUCTION PROCESSING 3 Cr. Production processes with special consideration to product design as related to economic production. Emphasis on factors which influence the choice and sequence of process to obtain an end product. Prerequisite: 150-200, 354-130.

150-520 STATISTICAL QUALITY CONTROL 3 Cr. Application of statistics and probability theory in quality control. Emphasis on statistical theory underlying Schewart Control Charts, acceptance sampling plans, and introduction to design of experiment and analysis of variances. Prerequisite: 150-320.

150-530 HUMAN FACTORS ENGINEERING 3 Cr. A survey of the areas of man-machine interface. The physiological and psychological abilities and senses of man will be examined, together with technological advances in the interface areas of control, working

performance, reliability, comfort, and safety. (The emphasis will be on effective design of man and work environment as a cybernetic system.) Prerequisites: 479-110, 354-130.

150-570 ESTIMATING AND ANALYZING CONSTRUCTION COSTS 3 Cr. This course involves the process of estimating as analyzing material, man-hours, equipment, methods of construction, overhead, and profit and submitting these factors in the form of a bid.

150-600 INDUSTRIAL SUPERVISION 3 Cr. An overview of the supervisor's role in accomplishing organizational objectives through the management of human resources. Concepts of organizational and individual behavior serve as a foundation for the development of such supervisory skills as communication, motivation, initiating change, discipline, delegation, and handling grievances.

150-610 INVENTORY MANAGEMENT 3 Cr. A course covering the principles and techniques of ordering, storing, issuing and control of inventory throughout the manufacturing process. Special attention will be focused on the principles and applications of the Economic Order Quantity, the reorder point, safety stock, material movement, warehousing and distribution of the finished product. Prerequisite: 150-200, 150-500.

150-650 INTRODUCTION TO OPERATIONS RESEARCH 3 Cr. Business and industrial application of operations research techniques using linear programming, decision models, and Monte Carlo methods. Problem applications in allocation, sequencing, waiting lines, and competitive strategies. Prerequisite: 150-200, 354-130, 355-157, or 355-153.

150-660 INDUSTRIAL MANAGEMENT 2 Cr. Principles and methods of analyzing and solving industrial problems. Application through case studies, management games, and special problems. Prerequisite: 150-150.

150-670 SYSTEMS APPROACH TO CONSTRUCTION MANAGEMENT 3 Cr. The total concept of the construction industry including the contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques.

150-x98 FIELD EXPERIENCE — AMERICAN INDUSTRY 2 Cr. Off-campus work and study in an approved position to better understand how the five environmental and 13 concepts of industry function and interrelate. Prerequisite: 150-115.

MATERIALS AND PROCESSES

170-101 PROCESSES: CONCEPTS 3 Cr. Conceptual study, including application, of the area of industrial processes generated by the basics of growing, extraction, conditioning, and combining.

170-201 PROCESSES: MANUFACTURING 3 Cr. A study of the processes that man had developed to convert raw materials into useful goods. Includes a study of a wide variety of industrial production operations. Laboratory experiences provide for the development of sufficient technical knowledge and skill in the basic cutting, forming and fabricating operations that the student will be able to produce products efficiently. Prerequisite: 170-101.

170-202 METALS 2 Cr. Introduction and orientation to the metals field.

Equal time in machine shop, welding, foundry, and sheet metal. Exploratory experiences are provided in the four areas with fundamental operations and related technical information.

170-205 DESIGN FOR INDUSTRY 2 Cr. Industrial research and product development experiences focusing on problems related to manual, semi-automatic and automatic production utilizing various materials and processes will be encountered in this course. The development and application of various systems for selection of materials and processing will be studied. Prerequisite: 170-101.

170-209 GENERAL FINISHING 2 Cr. Technical information and application of finishes to various materials. Color theory, spraying, baking, drying, polishing, spot finishing, and refinishing. Prerequisite: 170-101 or 170-202.

170-230 MACHINE SHOP 2 Cr. Basic experiences on the engine lathe, drill press, milling machine, grinder and shaper. Hand tools and related information appropriate to fundamental operation are given. Prerequisite: 170-101 or 170-202.

170-241 MACHINE WOODWORKING 2 Cr. Technical information of wood industry materials and equipment. Job planning, organizing and preparation. Fundamental principles of wood and allied material processing. Prerequisite: 170-101.

170-250 PLASTICS I 2 Cr. A study of the materials and processes of the plastics industry. Technical information on the characteristics and properties of thermoplastic and thermosetting materials and processing equipment. Prerequisite: 170-101.

170-260 SHEET METAL 2 Cr. Fundamental machine and hand tool operations, soldering, pattern development, and related information. Discussions on materials equipment and supplies. Prerequisite: 170-101 or 170-202.

170-270 LIGHT BUILDING CONSTRUCTION 2 Cr. A study of terminology, materials, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

170-280 PACKAGING FUNDAMENTALS 2 Cr. An introduction to the packaging industry. The relationship to marketing and consumer behavior; its control through legal and industrial regulations, the functions as part of the larger organization; packages and their functions, role of the professional packaging manufacturer.

170-304 INDUSTRIAL CRAFTS 2 Cr. Study of craft industries including tool, processes, products from leather, fiber, metal, and wood material. Laboratory work in the use of above materials.

170-307 DIMENSIONAL METROLOGY 2 Cr. A study of the science of measurement, including all aspects of measurement from mechanical systems, such as micrometers, to systems using physical properties such as optical flats — scales, micrometers, verniers, gage blocks, optical flats, and lasers. Prerequisite: 170-101 or 170-202.

170-308 SURFACE COATINGS AND TREATMENTS 2 Cr. Application of color theory, color mixing, painting, graining, stenciling, marbling, mottling, strippling, texturing, dry wall construction, and interior design. Prerequisite: 170-209.

170-310 MATERIALS 2 Cr. Development of the concept area of materials as related to the approach being taken by industry. Students become involved in selection, utilization and testing different systems.

170-313 WOOD TECHNOLOGY 3 Cr. Forest management, structure of wood, properties of wood, defects of wood, modifying wood, bonding wood, testing procedures and trends in wood based industries. Prerequisite: 170-101.

170-315 PACKAGING MATERIALS 3 Cr. A study of the origin, composition, properties, and applications of packaging materials. Lab problems relating to standard materials testing methods. Prerequisite: 170-280.

170-331 MACHINE SHOP 2 Cr. Advanced shop practice; sharpening of lathe tools, twist drills, milling cutters, taper turning, grinding externally and on flat surfaces. Gear cutting on milling machine. Heat treating and layout techniques. Prerequisite: 170-230.

170-333 MACHINE SHOP III 2 Cr. Spiral milling, toolmaking, and cutter grinding, cylindrical grinding, maintenance. Prerequisite: 170-331.

170-344 CABINET WORK I 2 Cr. Problem solving, testing of materials, and advanced technical information. Construction of a major cabinetmaking project. Prerequisite: 170-241.

170-346 GENERAL WOODWORKING 2 Cr. General unit shop organization, upholstery and wood turning. Experience in organization and presentation of content in woodworking as it relates to the total industrial arts program. Prerequisite: 170-101.

**170-357 PATTERNMAKING-FOUND-
RY PRACTICE** 3 Cr. Patterns for metal castings are designed, constructed, and molded. Foundry practices utilizing various patterns and foundry techniques are experienced in the production of metal castings. Prerequisite: 170-101 or 170-202.

170-360 PATTERN DRAFTING 2 Cr. Advanced pattern development involving parallel line, radial line, and triangulation. Advanced shop practice. Care and maintaining of equipment. Prerequisite: 170-260.

170-365 WELDING I 2 Cr. Fundamentals of electric arc and oxy-acetylene welding processes in the flat position; manufacture and handling of gases; selection and types of equipment; routine maintenance; types of electrodes, coatings applications. Prerequisite: 170-101 or 170-202.

170-370 COMMERCIAL BUILDING 2 Cr. A study of structural building systems and related mechanical installations. Prerequisite: 170-270.

**170-372 HEATING AND AIR-
CONDITIONING** 3 Cr. Principles of heating, heat energy, heating system, calculation of heating loads, heating drawings, burners, and control systems.

170-380 PACKAGING SYSTEMS 3 Cr. The study of packaging from the design phase through production. Lab work on structural design, sample making and package evaluation. Prerequisite: 170-280.

170-453 PLASTICS MOLD MAKING 2 Cr. The student is required to design a metal mold for a plastic item and progress through the construction stages

to the point where the mold will produce finished work pieces. A problem solving course in a specialized technical area. Prerequisite: 170-202.

**170-460 METAL FORMING AND
FABRICATION** 2 Cr. Cabinet work involving direct layout with extensive work on the cornice and press brake. Spot welding. Discussion on selection and purchasing of supplies. Prerequisite: 170-260.

170-465 WELDING II 2 Cr. Advanced work in arc and oxy-acetylene welding techniques; vertical, horizontal, overhead positions; destructive and nondestructive testing; MIG and TIG welding processes; oxy-acetylene machine and air carbon arc cutting. Prerequisite: 170-365.

**170-480 PACKAGING DESIGN AND
EVALUATION** 3 Cr. Discussions on the chemical and physical protection problems. Package design with reference to materials, structure, graphics, and regulations. Package evaluation in terms of shock and vibration forces. Practical applications of evaluation using electronic instrumentation. Prerequisite: 170-380.

**170-501 TECHNOLOGY — RE-
SOURCES - ENVIRONMENT** 2 Cr. A problem solving course which will show our present and probable future position with respect to known available resources. The relationship between rate of resource use and environmental degradation will be demonstrated, and possible consequences of our present resource consumption patterns, more appropriate to the presently known available resources will be conducted.

INDUSTRIAL TEACHER EDUCATION

190-160 INTRODUCTION TO INDUSTRIAL EDUCATION 1 Cr. An introduction to current programs, facilities, and opportunities in teaching American Industry, industrial arts, vocational, technical and adult education. Different kinds of programs will be examined as to their purpose in the field of education. Students will develop personal plans and goals in relation to the future direction of these programs.

190-205 METHODS OF TEACHING INDUSTRIAL EDUCATION 2 Cr. Study of teaching methods in use in youth and adult shop classes. Instruction planning; lesson presentations with video tape equipment; methods of organization and management; instruction aids; professional ethics. Prerequisite: 190-160.

190-404 CURRICULUM DEVELOPMENT 5 Cr. Development of an orderly procedure for the identification of concepts; generalizations and instructional units to be used in teaching. Course outlines, analysis of content, lesson planning, evaluation, management. Prerequisite: 190-205, 421-303.

190-408 STUDENT TEACHING 8 Cr. Directed teaching and community experiences in selected off-campus schools. Prerequisites: 190-404, 190-205, 421-303.

190-488 INTERNSHIP TEACHING 8 Cr. An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisite: 190-404.

190-525 INDUSTRIAL ARTS FOR ELEMENTARY TEACHERS 2 Cr. Development, philosophy, objectives, and course organization for industrial arts for the elementary schools. Suitable laboratory work in woods, metals, plastics, and drawing.

190-533 SHOP PLANNING AND EQUIPMENT SELECTION 2 Cr. Principles of school shop planning including equipment selection and placement, plus selection, care, and arrangement of supplies. Prerequisite: 190-404 or equivalent.

190-606 LEARNING ACTIVITIES IN INDUSTRIAL AND VOCATIONAL EDUCATION 2 Cr. A study and design of learning activities for industrial and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and effective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects.

190-637 SCHOOL SHOP ORGANIZATION AND MANAGEMENT 2 Cr. Experience in administration, project development and teaching problems associated with industrial education. Prerequisite: 190-205.

BUSINESS ADMINISTRATION

309-206 PRINCIPLES OF ACCOUNTING 3 Cr. The theory of debit and credit; the underlying principles of the various accounting records; modern business papers; working sheets; the balance sheet and the income statement; the sole proprietorship, the partnership.

309-207 PRINCIPLES OF ACCOUNTING 3 Cr. A development of the basic accounting theory which is introduced in 309-206 including partnership and corporate forms of organization. The elements of branch and manufacturing accounting are included, as well as the introduction to cost accounting, budgeting and the analysis and interpretation of financial statements. Prerequisite: 309-206.

309-210 PRACTICAL MATHEMATICS OF FINANCE 3 Cr. Application of fundamentals of mathematics to business transactions: interest, annuities, bonds, depreciation, present value analysis, life insurance. Prerequisite: 355-118 or equivalent.

309-230 SMALL BUSINESS MANAGEMENT 3 Cr. Introduction to the various aspects of business management, especially at the level of small business. Prerequisite: 309-206, 320-210 or 320-215.

309-245 BUSINESS DATA PROCESSING 3 Cr. Development of a basic understanding of data processing principles; introduction to business data processing equipment and these principles on the business environment.

309-246 COMPUTER PROGRAMMING — COBOL 3 Cr. Introduction to computer systems and their utilization. The development of programming practices and techniques, flowcharting, and application through a business oriented translating language. Prerequisite: 309-245.

309-304 PRINCIPLES OF BUSINESS MANAGEMENT 3 Cr. Studying in depth the basic managerial functions of planning, organizing, staffing, directing, and controlling, including the principles of management which have universal application to all types of organizations;

nature of authority and responsibility, departmentation, line and staff relations; the enterprise manager in his social setting, comparative management, and management and the future. Prerequisites: 309-207 and 320-215.

309-310 COST ACCOUNTING 3 Cr. Cost accounting principles and procedures relating to job order, process, and standard costing; elements of cost, cost control, and cost reports. Prerequisite: 309-207.

309-318 BUSINESS LAW 3 Cr. Introduction to law, contracts, agency nature and types of negotiable instruments.

309-319 BUSINESS LAW II 3 Cr. A continuation of Business Law I; includes security devices, insurance agency, employment, partnerships, corporations, real property, estates and bankruptcy, government and business; a study of the effect of the Uniform Commercial Code on the above-mentioned areas of business law. Prerequisite: 309-318.

309-320 INCOME TAX ACCOUNTING 3 Cr. Principles involved in determining taxable net income, and computation of federal and state income taxes for individuals, partnerships, and corporations. Prerequisite: 309-207.

309-323 RETAIL MERCHANDISING AND MANAGEMENT 3 Cr. Retail sales promotional techniques and practices with particular emphasis on display, layout, retail and cooperative advertising, mathematics of merchandising. Retail management problems such as store location, types of goods stocked, inventory financing, credit operation, etc. Prerequisite: 309-330.

309-325 BUSINESS STATISTICS 3 Cr. Method of collection, analysis, and

presentation of economics, social, and business data. Ratios, frequency distributions, averages, variability, linear regression, correlation, time series analysis, and principles of index numbers. Prerequisite: 355-118 or equivalent.

309-330 PRINCIPLES OF MARKETING 3 Cr. Retail, wholesaling, advertising, channels of distribution, cooperative marketing, pricing, marketing research, and marketing legislation from the standpoint of consumers, middlemen, and manufacturers. Prerequisites: 320-210, 320-215.

309-334 SALESMANSHIP AND SALES MANAGEMENT 3 Cr. Basic concepts of selling, including locating prospects, securing and conducting sales presentations, analyzing and handling different types of customers, closing sale, maintaining goodwill. Study of sales organizations with emphasis on recruitment, selection, training compensation, and cost control methods. Prerequisite: 309-330.

309-335 MANAGERIAL ACCOUNTING 3 Cr. Provides students majoring in general business with an understanding of the significance of accounting data without involvement in mechanical techniques. Interpretation of financial statements, internal control, budgeting, costing of products manufactured and sold, analysis of cost-volume-profit decisions. Prerequisites: 309-207, 320-215.

309-340 BUSINESS FINANCE 3 Cr. Principles governing the planning, raising, and controlling of short and long term funds for a business enterprise, large or small corporate or noncorporate. Financial aspects of promotion and organization, sources of financing and the administration of income; failure and reorganization. Prerequisite: 320-215, 309-207.

309-355 PRINCIPLES OF INSURANCE 3 Cr. Basic principles of risk and insurance and their applications to business management and personal affairs. Analysis of concepts and methods of handling risks; insurance carriers and contracts and underwriting; loss prevention and settlement; government insurance programs. Economic functions of insurance. Prerequisite: 320-215.

309-370 PRINCIPLES OF ADVERTISING 3 Cr. A survey course presenting the psychological, social, and economic aspects of advertising. Advertising is presented in its relationship to the other factors of distribution with emphasis on the place of advertising in modern business. Prerequisite: 309-330.

309-601 REGULATION OF INDUSTRY 3 Cr. Economic concentration lessening competition or creating a (monopoly) and maintaining competition; changing relationships between government and industry, emphasizing regulatory legislation, administrative agencies, national policies, and social control.

309-679 MARKETING RESEARCH 3 Cr. Experimental and survey techniques used to secure information necessary for successful marketing such as who buys what, when, where, how and why. Primary and secondary sources of information examined. Data collection, compilation, and analysis methods reviewed plus effective communication of conclusions and recommendations to management. Prerequisite: 309-325, 309-330.

309-690 ADMINISTRATIVE AND BUSINESS POLICIES 3 Cr. Integrates the student's previous studies in business, and further develops his ability to deal more effectively with business problems by learning and applying the scientific approach to

decision making. Includes business cases on policy formulation and administration, involving the functions of manufacturing, marketing, finance, accounting, personnel, and public relations.

309-x98 FIELD EXPERIENCE — BUSINESS ADMINISTRATION 2 Cr. Off-campus work and study in an approved position to better understand the challenges of being an effective manager. Prerequisite: 309-304.

HOME ECONOMICS

INTERDEPARTMENTAL

200-68I PROBLEMS IN HOME ECONOMICS 2 Cr. This course will deal with special problems in depth as initiated by an instructor or according to student needs and interests. This course should serve as a culminating educative experience for students in the various areas of home economics.

200-698 NATIONAL STUDY TOUR IN HOME ECONOMICS 1-3 Cr. Group membership limited to 20 and majors of the particular area to be studied have priority. Study visit to a major United States city relating student's learning in his major area to business and industry.

HUMAN DEVELOPMENT AND FAMILY LIVING

212-100 INTRODUCTION TO EARLY CHILDHOOD PROGRAMS 1 Cr. Introduction to history and types of programs for young children and staff requirements in early childhood professions.

212-124 CHILD DEVELOPMENT I 3 Cr. A developmental study of the child from conception through adolescence, including physical, intellectual, social and emotional growth. Observation required.

212-204 INTRODUCTION TO TEACHING EARLY CHILDHOOD EDUCATION 3 Cr. An introduction to early childhood education, program management, classroom arrangement, guidance principles, sensory stimulation, enhancement of self, and creative expression with young children. Prerequisites: 212-264 and 212-124.

212-235 CHILD DEVELOPMENT LABORATORY 1 Cr. Observations in the Child and Family Study Center or similar center culminating in a personality study of a child. Prerequisite: 212-124.

212-250 FAMILY RELATIONSHIPS I 3 Cr. Dynamics of social-psychological forces affecting family interaction. Explorations of courtship, husband-wife, parent-child relationships.

212-251 EARLY YEARS OF MARRIAGE 1 Cr. Presentation and evaluation of adjustments goals and processes of the early years of marriage.

212-253 DUAL CAREER FAMILIES 1 Cr. The dual career marriage as a form of family life; benefits and problems encountered.

212-255 FAMILY LIVING (EMR) 3 Cr. Marriage and family relationships for teachers of secondary educable mentally retarded.

presentation of economics, social, and business data. Ratios, frequency distributions, averages, variability, linear regression, correlation, time series analysis, and principles of index numbers. Prerequisite: 355-118 or equivalent.

309-330 PRINCIPLES OF MARKETING 3 Cr. Retail, wholesaling, advertising, channels of distribution, cooperative marketing, pricing, marketing research, and marketing legislation from the standpoint of consumers, middlemen, and manufacturers. Prerequisites: 320-210, 320-215.

309-334 SALESMANSHIP AND SALES MANAGEMENT 3 Cr. Basic concepts of selling, including locating prospects, securing and conducting sales presentations, analyzing and handling different types of customers, closing sale, maintaining goodwill. Study of sales organizations with emphasis on recruitment, selection, training compensation, and cost control methods. Prerequisite: 309-330.

309-335 MANAGERIAL ACCOUNTING 3 Cr. Provides students majoring in general business with an understanding of the significance of accounting data without involvement in mechanical techniques. Interpretation of financial statements, internal control, budgeting, costing of products manufactured and sold, analysis of cost-volume-profit decisions. Prerequisites: 309-207, 320-215.

309-340 BUSINESS FINANCE 3 Cr. Principles governing the planning, raising, and controlling of short and long term funds for a business enterprise, large or small corporate or noncorporate. Financial aspects of promotion and organization, sources of financing and the administration of income; failure and reorganization. Prerequisite: 320-215, 309-207.

309-355 PRINCIPLES OF INSURANCE 3 Cr. Basic principles of risk and insurance and their applications to business management and personal affairs. Analysis of concepts and methods of handling risks; insurance carriers and contracts and underwriting; loss prevention and settlement; government insurance programs. Economic functions of insurance. Prerequisite: 320-215.

309-370 PRINCIPLES OF ADVERTISING 3 Cr. A survey course presenting the psychological, social, and economic aspects of advertising. Advertising is presented in its relationship to the other factors of distribution with emphasis on the place of advertising in modern business. Prerequisite: 309-330.

309-601 REGULATION OF INDUSTRY 3 Cr. Economic concentration lessening competition or creating a (monopoly) and maintaining competition; changing relationships between government and industry, emphasizing regulatory legislation, administrative agencies, national policies, and social control.

309-679 MARKETING RESEARCH 3 Cr. Experimental and survey techniques used to secure information necessary for successful marketing such as who buys what, when, where, how and why. Primary and secondary sources of information examined. Data collection, compilation, and analysis methods reviewed plus effective communication of conclusions and recommendations to management. Prerequisite: 309-325, 309-330.

309-690 ADMINISTRATIVE AND BUSINESS POLICIES 3 Cr. Integrates the student's previous studies in business, and further develops his ability to deal more effectively with business problems by learning and applying the scientific approach to

decision making. Includes business cases on policy formulation and administration, involving the functions of manufacturing, marketing, finance, accounting, personnel, and public relations.

309-x98 FIELD EXPERIENCE — BUSINESS ADMINISTRATION 2 Cr. Off-campus work and study in an approved position to better understand the challenges of being an effective manager. Prerequisite: 309-304.

HOME ECONOMICS

INTERDEPARTMENTAL

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HUMAN DEVELOPMENT AND FAMILY LIVING

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212-253 DUAL CAREER FAMILIES 1 Cr. The dual career marriage as a form of family life; benefits and problems encountered.

212-255 FAMILY LIVING (EMR) 3 Cr. Marriage and family relationships for teachers of secondary educable mentally retarded.

212-264 CHILD GUIDANCE 2 Cr. Study of principles relevant to guidance of children. Evaluation of literature and application of studies to children. Observation experiences in the study of young children.

212-265 CHILD GUIDANCE LABORATORY 1 Cr. Supervised participation in the Child and Family Study Center or similar center with emphasis on guidance techniques and understanding of children. Prerequisite: 212-264.

212-303 CURRICULUM I: LANGUAGE ARTS AND SOCIAL SCIENCES IN EARLY CHILDHOOD EDUCATION 2 Cr. Development of methods and techniques necessary for teaching language arts and social studies to young children with particular emphasis placed on effective social and communications skills and experiences. Prerequisite: 212-204.

212-324 CHILD DEVELOPMENT II 3 Cr. An empirical study of the physiological, intellectual, social and emotional development of children. Prerequisites: 212-124 and 212-264.

212-333 CURRICULUM II: SCIENCE AND MATHEMATICS IN EARLY CHILDHOOD EDUCATION 2 Cr. Directed study for the application of skills in order to teach mathematics and science concepts appropriate for early childhood education, including organization and presentation of teaching-learning experiences for children in early learning situations. Prerequisite: 212-204.

212-342 CREATIVE ACTIVITIES FOR YOUNG CHILDREN 3 Cr. Curriculum, methods and materials, related to music, art, and creative movement activities for the young child. Prerequisite: 212-124 or 212-264.

212-350 FAMILY RELATIONSHIPS II 3 Cr. A study of the family with emphasis on environmental factors significant in marriage and family relationships. Prerequisite: 212-250.

212-351 DEATH AND THE FAMILY 1 Cr. Presentation and discussion of current literature concerning how families deal with the death of a member. In particular, this course is oriented toward how adults can aid children to cope with the death of a family member, but it is also concerned with how other members of the family deal with the death of older as well as younger family members.

212-352 PARENTHOOD 1 Cr. Presentation and evaluation of current knowledge concerning parenthood. Effects of parenthood on parents.

212-354 THE SINGLE PARENT FAMILY 1 Cr. Description, including statistical trends, of single-parent families, and problems involved.

212-407 PARENT EDUCATION 2 Cr. A study of parent groups, the training of parent-group leaders, a survey of the literature in this field. Practicum with parent groups. Prerequisite: 212-264.

212-408A STUDENT TEACHING IN EARLY CHILDHOOD CENTERS 4 Cr. Directed teaching and community experience in selected early childhood centers. Prerequisite: 212-333.

212-408B STUDENT TEACHING IN KINDERGARTEN 4 Cr. Directed teaching and community experience in selected kindergartens. Prerequisite: 212-303.

212-409 CLINICAL SEMINAR IN CHILD DEVELOPMENT PROGRAMS 1/2 Cr. Seminar concurrent-

with student teaching experience in the Child and Family Study Center or other preschool program.

212-411 CLINICAL SEMINAR IN KINDERGARTEN EDUCATION 1/2 Cr. Seminar held concurrently with Student Teaching in the Kindergarten.

212-433 CURRICULUM III: TEACHING READING IN EARLY CHILDHOOD EDUCATION 2 Cr. A study and evaluation of current philosophies, methodology, and materials in the teaching of reading with special emphasis on readiness activities and beginning reading in early childhood. Prerequisite: 212-333.

212-451 DIVORCE 1 Cr. Evaluation of the fact of divorce and divorce trends as a part of the family system in America. Prerequisite: 212-250.

212-488 INTERN TEACHING 8 Cr. An alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisite: 212-333.

212-535 SEMINAR ON SELF-GROWTH 2 Cr. A seminar based on a study of theories of the self. Exploration of selected aspects of self-development actualization. Prerequisite: 212-324 or 212-350.

212-541 HOME INTERVENTION PROGRAMS IN EARLY CHILDHOOD PROGRAMS 1 Cr. Planning, supervising, and implementing a home intervention program for young children and their families.

212-545 PRESCHOOL PROGRAMMING FOR THE MENTALLY

HANDICAPPED 2 Cr. Program development and implementation for preschool mentally handicapped children.

212-580 FUTURE OF THE FAMILY 1 Cr. Evaluation of experimental and utopian forms of the family and study of the future of the family.

212-581 DYNAMICS OF MARITAL INTERACTION 2 Cr. Patterns of husband-wife power distribution, task differentiation, decision making, communication, role adaption and marital satisfaction over the family life cycle. A theoretical analysis of marital behavior within the family as a social system.

212-598 AMERICAN STUDY TOUR IN CHILD DEVELOPMENT 2 Cr. Study tour of child development centers. Discussions and lectures by leaders in the field of child development.

212-607 PARENT COUNSELING. 2 Cr. Various approaches and techniques of working with parents. Observation and experience with problems parents face in childrearing. Prerequisites: 212-124 and 212-264.

212-624 ADVANCED CHILD STUDY 3 Cr. A study of principles and review of literature pertaining to children. Prerequisites: 212-124 and 212-264.

212-626 SPECIAL TOPICS IN THE STUDY OF FAMILY LIFE 3 Cr. A review of programs and literature related to family life with opportunity for individual study of problems of personal or professional interest. Prerequisite: 212-350.

212-637 SEMINAR IN CHILD DEVELOPMENT 2 Cr. Exploration in

depth of special problems and aspects in child development field with preference given to student's interest.

212-650 INTRODUCTION TO MARRIAGE AND FAMILY COUNSELING 3 Cr. Conceptual frameworks and approaches to marriage and family counseling.

212-651 MARRIAGE AND FAMILY COUNSELING SEMINAR 3 Cr. The understanding of application of basic counseling techniques to premarital, marital, family and couples-group counseling under supervision of professional marriage and family counselor. Prerequisite: 212-650.

212-660 CURRENT SEX RESEARCH 1 Cr. Overview and evaluation of current research concerning human sexual behavior and attitudes. Prerequisite: 212-250.

212-664 PROBLEMS IN EARLY CHILDHOOD CURRICULUM 1-3 Cr. Philosophy and methodology of Early Childhood Education with emphasis on problems confronting teachers in this area. Prerequisite: 212-303.

212-665 ADMINISTRATION OF EARLY CHILDHOOD EDUCATION PROGRAMS 2 Cr. A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating Early Childhood Education programs. Field trips required. Prerequisite: 212-408B.

212-680 AGED PERSON AND HIS FAMILY 1 Cr. Study of the characteristics and needs of aged members of the society with emphasis on the intergenerational relationships of family members.

212-685 SEMINAR ON THE CULTURALLY DISADVANTAGED CHILD AND FAMILY 3 Cr. Study of problem, needs, related research and current trends to assist the disadvantaged child and family toward fuller actualization of potentialities for self and society. Prerequisite: 212-324 or 212-350.

APPAREL, TEXTILES AND DESIGN

214-110 MALE-FEMALE APPAREL 1 Cr. A study of the elements and organization of design as they relate to contemporary apparel for men and women.

214-117 CLOTHING AND BEHAVIOR 1 Cr. A study of the function of clothing and how culture, society and the individual influence clothing choices.

214-120 INTRODUCTION TO FASHION MERCHANDISING 2 Cr. Introduction to the field of fashion merchandising with an emphasis on the professional development, personal qualities, professional publications and the standardization of ready-to-wear garments.

214-140 TEXTILES 3 Cr. Fibers, yarns, fabric construction, finishes, and design as applied to the selection of clothing and household fabrics.

214-225 CLOTHING AND TEXTILE INDUSTRY 3 Cr. The clothing and textile industry, its organization, promotion methods, and the inter-relationship of the major factors of industry and its markets. Prerequisite: 214-140.

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214-260 BASIC APPAREL FOR THE EMR 3 Cr. For secondary special education majors concerned with selection, care, repair, and storage of personal clothing. Construction of a garment or other textile project.

214-266 APPAREL CONSTRUCTION 3 Cr. A study of apparel construction theory, principles of fitting and their application to the construction of garments. It is recommended that Textiles be taken prior to this course.

214-270 INTRODUCTION TO MENSWEAR CONSTRUCTION 1 Cr. Orientation to the construction of menswear. Open to men and women with limited or no experience in construction. This course may not be taken for credit after 214-266.

214-319 ECONOMICS OF CLOTHING 3 Cr. Analyzation of garments or products for making discriminating choices in relation to desired use.

214-325 FASHION MERCHANDISING I 3 Cr. Merchandising with application of fundamentals for selling, buying and marketing procedures.

214-370 CONSTRUCTION OF MENSWEAR 3 Cr. Application of recent techniques in the construction of menswear. Prerequisite: 214-266 or 214-270.

214-402 UNDERGRADUATE CLOTHING AND TEXTILE RESEARCH 2 Cr. Individual investigation in one specific field of interest within clothing and textiles. Opportunity to correlate clothing and textiles with related fields.

214-425 FASHION MERCHANDISING II 2 Cr. Practical application of the

procedures involved in the promotion of fashion merchandising, display, oral and written promotional communication and publicity. Prerequisite: 214-325.

214-426 FASHION MERCHANDISING PRACTICUM 1 Cr. Observation and structured experience in merchandising procedures dealing with the complete operations and management in a retail establishment. Prerequisite: 214-426.

214-429 TEXTILE ECONOMICS 2 Cr. Textile market conditions. Patterns of textile consumption in business and industry, and their indirect relationship to the individual and family. Prerequisites: 214-225, 320-210 and 320-215.

214-430 MERCHANDISE PLANNING AND CONTROL 2 Cr. Techniques of merchandising the fashion department including: budgeting the merchandise dollar; planning the merchandise assortment, managing inventory; buying for resale. Prerequisite: 214-325.

214-466 COUTURE TECHNIQUES 2 Cr. Application of couture techniques to apparel and experimentation with unusual fabrics. Prerequisite: 214-266.

214-540 TEXTILE SCIENCE 3 Cr. Structural aspects of textile fibers and fabrics related to physical properties of textiles. Application and evaluation of dyes, finishes, and soil removal agents. Fiber analysis through solubility and microscopic appearance. Prerequisite: 214-140.

214-545 TEXTILES FOR INSTITUTIONS 2 Cr. Raw materials, fabric structures, specifications and legislation related to quality, performance and maintenance of textiles for institutional uses.

214-566 APPAREL CONSTRUCTION-KNIT AND STRETCH FABRICS 2 Cr. A study of the principles of knit and stretch sewing and their application in the construction of garments. Prerequisite: 214-266.

214-580 FLAT PATTERN 3 Cr. A study and application of the techniques of pattern designed through drafting methods. An original garment is designed and constructed. Prerequisite: 214-266.

214-590 PRACTICUM IN TEXTILE DESIGN 3 Cr. An exploratory course devoted to the use of the following textile design techniques as a means of artistic expression: stitchery, weaving, knotting, applique and hooking. Emphasis will be placed on good design and creativity. Prerequisite: 304-101.

214-592 PRACTICUM IN TEXTILE PRINTING 2 Cr. Exploring use of textile design techniques-primarily silk screen, tie dye, printing, and batik. Emphasis will be placed on good design and creativity. Prerequisite: 304-101.

214-605 EUROPEAN STUDY TOUR 3-6 Cr. Tour of European centers of art, clothing, and textiles. Study of the cultural patterns. Program includes lectures by consultants and seminars on the various phases of the fashion and fabric industries.

214-610 HISTORY OF COSTUME: ANCIENT TO EUROPEAN 1900 3 Cr. Development of costume throughout the ages. Fashion as it reflects the cultures of the past and influences present-day costume.

214-611 HISTORY OF AMERICAN COSTUME 2 Cr. American costume as it evolved from colonial to contemporary

times with emphasis on costume characteristics and social, political, religious and cultural influences.

214-617 SOCIAL-PSYCHOLOGICAL ASPECTS OF CLOTHING 3 Cr. The social significance of clothing to an individual and the influence it has upon his behavior.

214-639 NATIONAL STUDY TOUR TO FASHION INDUSTRY 1 Cr. Five day visit in New York City (or alternate city). Program will involve study hours, discussions, and lecture by leading people in American fashion market.

214-640 TEXTILE EVALUATION 2 Cr. Problems involving fiber identification, fabric performance, and fabric care. Chemical and microscopic testing procedures. Investigation methods for gathering and interpreting data. Individual problems. Prerequisite: 214-140.

214-655 RECENT DEVELOPMENTS IN CLOTHING AND TEXTILES 2 Cr. Various areas of apparel and textiles are explored in light of new developments in these and related fields. Prerequisites: 214-140 and 214-266.

214-666 TAILORING 3 Cr. Application of tailoring techniques in making suits and coats. Prerequisite: 214-266.

214-680 DRAPING 3 Cr. Application of draping principles in the designing and construction of garments. Emphasis on creativity. Prerequisite: 214-266.

214-685 APPAREL DESIGN 2-4 Cr. Development of designs and construction of apparel using advanced techniques. Prerequisite: 214-580 or 214-680.

214-690 ADVANCED TEXTILE DESIGN-STITCHERY 1 Cr. Exploration in depth of the creative potentials of specific areas in textile design - stitchery-applique. Prerequisite: 214-590.

214-691 ADVANCED TEXTILE DESIGN-NON-LOOM 1 Cr. Exploration in depth of the creative potentials of specific areas in textile design: Non-loom interlacing thread techniques (sprang, macrame, netting, knitting, crocheting). Prerequisite: 214-590.

214-692 ADVANCED TEXTILE DESIGN-HOOKING 1 Cr. Exploration in depth of the creative potentials of specific areas in textile design - hooking - rya. Prerequisite: 214-590.

214-693 STRUCTURAL DESIGN AND WEAVING 2 Cr. A studio course involving experiences in weaving and other structural techniques. Prerequisite: 304-101.

214-694 ADVANCED WEAVING STUDIO 2 Cr. Advanced study and experiences in complex hand weaving techniques. Focus on block theory, pile constructions, leno techniques, and double cloth. Individual exploration encouraged. Prerequisite: 214-693 or equivalent.

214-695 DECORATIVE FABRICS 2 Cr. Study of historic and contemporary fabrics with analysis of designs and techniques of decorating fabrics. The contribution of decorative fabrics to the enrichment of human experience.

214-x98 FIELD EXPERIENCE-FASHION MERCHANDISING 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the merchandising area.

Prerequisite: 214-225 or 214-325.

FOOD SERVICES AND NUTRITION

229-124 FOODS 2 Cr. The consumer's use of scientific principles in the selection, preparation and service of foods.

229-125 FOOD PRACTICUM 2 Cr. Practical application of the scientific principles of food preparation. Prerequisite: 229-124.

229-136 FOOD FOR YOUNG CHILDREN 1 Cr. Food needs of infants and young children, designed for early childhood education majors. Not applicable for students with credit in 229-212.

229-205 NUTRITION FOR WEIGHT CONTROL 2 Cr. Basic principles of nutrition as related to the physical stamina, mental alertness and emotional stability of individuals undergoing weight modification.

229-212 NUTRITION 3 Cr. Principles of human nutrition and application in the selection of food for members of the family group.

229-220 OUTDOOR COOKING 1 Cr. Food preparation principles as applied to cooking and serving outdoors. Study of equipment used in outdoor food preparation. Investigation of foods for camping, backpacking, and canoe camping. Sections on preparation of wild game and on gathering and preparation of wild foods.

229-240 FOOD SCIENCE 3 Cr. Study of physical and chemical changes as they affect the selection, preparation and service of food. Prerequisite: 311-201.

229-260 MENU PLANNING AND DESIGN 2 Cr. The principles of menu planning, design, and production for commercial and institutional food establishments.

229-318 MEAL MANAGEMENT PRACTICUM 2 Cr. Practical applications and problem-solving using principles of food economics, meal management, and food service for family-sized consumer groups. Prerequisites: 229-124, or 229-240, 229-212.

229-404 FOOD SERVICE MANAGEMENT FOR CHILD DEVELOPMENT CENTERS 2 Cr. Administration of food service for preschool children in centers, with consideration of individual needs and emotional reactions to food, meal planning, purchasing, receiving and storage, principles of food preparation and service, and equipment.

229-405 FOOD SERVICE PRACTICUM FOR CHILD CARE CENTERS 1 Cr. Application of food management principles for directors of child care centers. Personnel management; menu planning; recipe selection, standardization and adjustment; food purchasing and storage; food production and service; equipment use; sanitation and safety; and nutrition education in a day care setting. Prerequisite: 229-404.

229-410 NUTRITION AND DIETETICS 3 Cr. Principles of human nutrition applied to individual, family, community, and world problems. Prerequisites: 229-212, 308-362, 311-511.

229-514 FOOD AND INDUSTRY 2 Cr. Broad concepts of the interrelationship between properties of raw food materials and methods of processing in the food industry.

229-606 NUTRITION EDUCATION 2 Cr. Nutrition education as planned behavioral change with emphasis on problems and solutions used in instructing various populations. Identification, development, and evaluation of nutrition resources. Prerequisite: 229-212, 242-201.

229-608 ADVANCED MEAL MANAGEMENT PRACTICUM 2 Cr. Individualized problem-solving of critical incidences in meal management: variations of meal service for entertaining, meals at different economic levels, use of specialized equipment in meal preparation and service, and other interrelated problems. Prerequisite: 229-318.

229-618 DIET THERAPY 3 Cr. Principles and methods for the use of diet as a therapeutic measure in certain pathological conditions. Prerequisite: 229-410.

229-620 FOOD STYLING AND CREATIVE COOKERY 2 Cr. Food as media for artistic expression. Effective use of color, form and texture in food styling.

229-631 READINGS IN FOOD SCIENCE AND NUTRITION 2 Cr. Critical reading, evaluating, and reporting from pertinent current journals and other publications. Prerequisites: 229-212, 311-115, or 311-135, 308-132.

229-633 MATERNAL AND CHILD NUTRITION 3 Cr. Application of basic knowledge to maternal, infant, child, and adolescent nutrition. Prerequisites: 229-212, 212-124, 308-132.

229-638 EXPERIMENTAL FOODS 3 Cr. Experimentation with selected food materials, techniques, and equipment.

Opportunity for directed study in an individually chosen area. Prerequisites: 229-125 or 229-240, 311-201.

229-642 ADVANCED FOODS 2 Cr. Comparative studies of food selection and preparation; appraisal of foods. Prerequisite: 229-125 or 229-240.

229-646 FOOD PRESERVATION 1 Cr. Principles and practical application of methods of food preservation and storage.

229-661 SOCIAL AND CULTURAL ASPECTS OF FOOD 2 Cr. Social, economic, and cultural influence on man's food patterns.

229-665 EUROPEAN FOODS STUDY TOUR 3 or 6 Cr. Tour to study cultures, food patterns, and different phases of food industries in Europe.

HUMAN DEVELOPMENT AND FAMILY LIVING

242-101 EXPERIENTIAL LEARNING IN HOME ECONOMICS 1 Cr. Analysis of the contribution of Home Economics education in the development of individuals and families and identification of the responsibilities of a professionally trained home economist.

242-201 TEACHING TECHNIQUES IN HOME ECONOMICS 1 Cr. Study of teaching techniques and skills for home economics learning experiences in relation to classroom organization and objectives.

242-240 CLINICAL EXPERIENCE IN MICRO-TEACHING 1 Cr. Video-taped

micro lessons with micro classes will be reviewed for self evaluation and critique with instructor.

242-241 CLINICAL EXPERIENCES IN THE COMMUNITY 1 Cr. Plan and implement home economics learning experiences for children and adults in community programs.

242-301 HOME ECONOMICS CURRICULUM 3 Cr. Development of curriculum to meet the needs of students in home economics programs.

242-341 CLINICAL EXPERIENCES IN SCHOOLS 1 Cr. Supervised experience in classroom teaching for development of motor, perceptual, social and cognitive learning through Home Economics substantive areas. Prerequisite: 242-240.

242-350 LABORATORY TECHNIQUES FOR TEACHING AND LEARNING IN HOME ECONOMICS 1 Cr. Develop laboratory techniques for managing human and material resources to promote learning in a single purpose or diversified home economics laboratory.

242-443 CLINICAL SEMINAR IN HOME ECONOMICS EDUCATION 2 Cr. Preparation for and evaluation of the student teaching experience. Emphasis on analysis of the classroom situation and evaluation of the teaching process. Prerequisite: 242-301 recommended; parallel enrollment 242-444 required.

242-444 PRACTICUM IN TEACHING HOME ECONOMICS 6 Cr. Practicum designed to provide experience in applying knowledge of theory of teaching and learning. Emphasis on self-evaluation and analysis of the teaching learning situation under the guidance of

a master teacher. Prerequisite: 242-301 recommended; parallel enrollment 242-443 required.

242-488 INTERNSHIP TEACHING 8 Cr. An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisite: 242-301.

242-503 PROGRAMS IN HOME ECONOMICS FOR THE MIDDLE SCHOOL 2 Cr. Development of techniques, materials, and curriculum concepts in Home Economics with the application of principles of human growth and development for teaching in the middle school.

242-620 VOCATIONAL PROGRAMS IN HOME ECONOMICS 2 Cr. Techniques, materials and curriculum for wage earning programs in Home Economics in the secondary and postsecondary school. Preliminary procedures for program development included. Prerequisites: 242-301, 469-602.

242-623 EDUCATION FOR CONSUMER HOMEMAKING 2 Cr. Development of curriculum including evaluation of methods and materials for teaching Consumer Education at secondary level. Prerequisite: 242-301.

242-625 OCCUPATIONAL EDUCATION IN CLOTHING SERVICES 2 Cr. Development of the concept of occupational education in secondary, post secondary and adult programs in home economics; specifically related to a cluster of courses in clothing services.

242-630 CONCEPTS OF EXTENSION EDUCATION 2 Cr. Study of the concepts and processes involved in

conducting educational programs for adult and youth; includes philosophy, objectives and organization of Extension Education, leadership, development, program development, teaching methods and evaluation.

242-640 HEALTH PROGRAMS IN HOME ECONOMICS 2 Cr. Curriculum and methodology for health programs in home economics including occupational programs. Prerequisite: Health course.

242-651 FAMILY LIFE EDUCATION PROGRAMS 2 Cr. Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level.

HABITATIONAL RESOURCES

245-105 MANAGEMENT FUNCTIONS FOR THE RESOURCES OF HABITAT 1 Cr. A survey course of the basic functions of management as they apply to the resources of habitat.

245-123 ESSENTIALS OF HOSPITALITY SERVICE 1 Cr. An orientation to acceptable hospitality standards which are essential in the proper planning and arranging of service for public and private functions.

245-140 INTRODUCTION TO HOTEL AND RESTAURANT MANAGEMENT 3 Cr. Development of historical background, the economics of tourism, vocational opportunities, basic system and organizational analysis, research, trends in the industry and problems of current importance.

245-211 QUANTITY FOOD PRODUCTION 3 Cr. Concepts for quantity food production: Menu planning, recipe

development, work production schedules, production analysis, food and labor cost controls and introduction to productivity and work simplification concepts. Laboratory experience in food production and service. Prerequisite: 229-124, 229-125.

245-220 MAINTENANCE AND SANI-

TATION 3 Cr. The responsibilities of the housekeeping department and the maintenance department in providing sanitary, attractive facilities and prolonging the life of the building and equipment.

245-222 INSTITUTIONAL FOOD PURCHASING 2 Cr. Methods of

purchasing food in large quantities. Determination of standards, specific needs and industrial offerings; formulation of specifications, buying procedures, and controls. Prerequisite: 229-125 or 229-124.

245-235 THE HUMAN HABITAT 3 Cr.

The relationship of space, equipment, and aesthetic and cultural aspects to human habitat. Prerequisite: 245-105.

245-240 INTRODUCTION TO TOURISM AND THE TRAVEL INDUSTRY

2 Cr. Principles and current knowledge of domestic and international tourism. The benefits of this industry to the community, area, state and nation, including its trends and potentials. Prerequisite: 320-210.

245-275 MANAGEMENT OF FAMILY RESOURCES 3 Cr. Application of the

basic concepts of management to family and consumer economics. Prerequisite: 245-105.

245-284 HOUSEKEEPING SKILLS FOR THE EMR 3 Cr. The course

provides the teacher trainee of the educable mentally retarded (EMR) with: (1) an understanding basic family finances; (2) knowledge of resource utilization with respect to the house, home furnishings and equipment; (3) psycho-motor skills for related employment suitable to the EMR.

245-300 HOTEL AND RESTAURANT MANAGEMENT 3 Cr. Management

principles pertinent to hotels and restaurants, supervisory development and training, labor relations, union contracts, ownership and financial structure, and managerial interpretation and evaluation of current systems and procedures. Prerequisite: 245-140.

245-306 HOME MANAGEMENT THEORY 3 Cr. Study of principles

relating to management within the home and the use of resources in achieving family goals. Emphasis on decision-making process.

245-312 CATERING I 3 Cr. Service of

special functions, banquets, receptions, etc. Emphasis is placed on planning, preparation service, menu planning, cost controls, classical buffet set-ups and personnel organization. Prerequisites: 229-123, 229-124, 245-125, 245-211.

245-330 ECOLOGY OF THE HOME 3

Cr. A study of individual and family socio-economic behavior in rearranging the physical environment in the home to meet special desires and possible future relationships with the infinitely more complex ecological consequences. Prerequisite: 308-150.

245-340 DEVELOPMENT OF TOURISM ATTRACTIONS 3 Cr. The

study of diversified natural and man-made background tourism elements (BTE), their preservation and incorporation in concepts for the

development of tourism destinations. Prerequisite: 245-240, 320-201 or 320-210.

245-345 MERCHANDISING AND SALES 3 Cr. Effects of location, internal and external merchandising programs, definition of markets, group and convention business, public relations, and evaluation of programs. Prerequisite: 245-140.

245-355 HOME EQUIPMENT AND HOUSEHOLD PHYSICS 3 Cr. Application of general laws and principles of physics to household appliances. Selection, operation, use, and care of home equipment.

245-360 CONSUMER ECONOMICS 3 Cr. Motives in consumption; family income and expenditures, selection of commodities and services; buying and selling practices. Evaluation of consumer aids and investigation of local situations. Prerequisite: 320-201 or 320-210.

245-370 HOTEL AND RESTAURANT ACCOUNTING 3 Cr. A study in the design and interpretation of specialized accounting and financial control systems in management decision-making. Emphasis will include uniform system of accounts, departmentalized costing procedures, statement analysis and interpretation. Prerequisite: 309-206.

245-371 FOOD AND BEVERAGE CONTROL 3 Cr. Basic costing concepts for food and beverages, control systems, analysis methods and correction procedures in a food service operation. Prerequisite: 309-206.

245-414 HAUTE CUISINE 3 Cr. The study and preparation of classical food items and service culminated with the

serving of a formal banquet. Prerequisite: 245-312.

245-436 LIGHTING FOR RESIDENTIAL INTERIORS 2 Cr. Practical information on light for general residential living. Emphasis will be made on the sociological, psychological and physical aspects of the lighting environment.

245-482 SEMINAR IN HOTEL AND RESTAURANT MANAGEMENT 3 Cr. An advanced course in management. The student will select and research a current topic of importance to the industry. Prerequisites: 245-140 and 245-300.

245-498 AMERICAN STUDY TOUR IN BUSINESS AND INDUSTRY 1 Cr. Five day visit in New York City or alternate city. Will involve study tours, discussions and lectures by leading people in industry, business and communications related to these fields.

245-501 FOOD SERVICE ADMINISTRATION 3 Cr. Organization and administration of institutional food service systems, personnel selection and training, cost control, and problems of supervision. Prerequisite: 229-318.

245-513 QUANTITY FOOD PRODUCTION AND SERVICE 3 Cr. Application of the principles of food preparation to large quantity production, menu and formula standardization; food production costs; and menu planning for institutions. Prerequisite: 245-501.

245-521 FOOD SERVICE EQUIPMENT 2 Cr. A comprehensive study of the factors affecting design, selection, layout, and uses of food service equipment and facilities. A quantitative

approach in optimum utilization of physical and human resources. Students plan actual layouts of different types of food facilities. Prerequisite: 130-110.

245-531 ECOLOGY OF HABITAT 2 Cr. A broad philosophical as well as physical perspective of human housing and which includes international aspects. A deep insight into family housing needs and the achievement of learning regarding these needs through laboratory experience. Value is placed upon the role of the home economist in the solution of world housing problems. Prerequisite: 6 credits of housing, equipment or equivalent.

245-583 FOOD SERVICE SEMINAR 2 Cr. Discussion and interpretation of recent developments in institution management. Choice of problems based on needs and interests of students.

245-602 THE EXTENDED ROLE OF SCHOOL FOOD SERVICE 1 Cr. An evaluation of the functions of school food service programs as an integral part of the school curriculum and community.

245-650 FAMILY HOUSING 3 Cr. Appreciation and understanding of differences in socio-economic factors of the environment which influence effective utilization of family housing resources. Emphasis will be on adjustment and flexibility of safety, comfort, convenience, physical and financial maintenance based on the family cycle.

245-651 HOUSE EVALUATION SEMINAR 2 Cr. Appreciation and understanding of the socio-economic factors and environmental conditions which influence effective utilization of family resources. Emphasis will be on costs, adaptability, safety, comfort,

convenience, and maintenance based on family needs. Projects will be chosen and studied by the individual or group.

245-655 MAJOR KITCHEN APPLIANCES 3 Cr. The detailed structure and performance analysis of ranges, refrigerators, freezers, disposers, dishwashers, microwave ovens, and selected kitchen appliances. Prerequisite: 245-355.

245-656 MICROWAVE OVEN 2 Cr. Application of microwave heating principles to the preparation and service of foods.

245-658 EXPERIMENTAL LAUNDRY PROCEDURES 2 Cr. Application of current knowledge necessary for effective laundering of household fabrics. Special emphasis on use of equipment in the laundry process, laundry aids, and water composition. Experimental laboratory experiences.

245-661 CONSUMER PROBLEMS 3 Cr. Factors influencing consumer choices; evaluation of various consumer aids. Consideration of consumer responsibilities to meet current needs. Activities of consumer groups. Prerequisite: 245-360 or 245-275.

245-676 FAMILY FINANCE 2 Cr. A study of the financial decisions and judgements which the average individual and family must make during a lifetime. Emphasis is on income and occupation, family expenditures, credit, savings, taxes and estate plans. Prerequisite: 320-201.

245-681 SPECIAL PROBLEMS IN HABITATIONAL RESOURCES 2 Cr. Special seminars on current problems that exist in the area of Habitational Resources. Topics of the seminar can be

chosen by the instructor, individual or the group.

245-685 DEMONSTRATION TECHNIQUES 2 Cr. Application of demonstration principles in planning and presenting all types of home economics demonstrations.

245-686 HOME MANAGEMENT SEMINAR 1 Cr. To prepare students for management in selected areas of consumer science, family economics, family finance, home management, household equipment, and housing. Opportunity to combine study of special topics and laboratory experiences in home management of family resources in seminars.

245-x98 FIELD EXPERIENCE — HOTEL AND RESTAURANT 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Prerequisite: 245-140.

LIBERAL STUDIES

TWO YEAR PROGRAM

Students intending to graduate from another school may, with careful planning, complete one to two years of general education courses at University of Wisconsin — Stout. Students who have selected a college from which they expect to graduate should, if possible, obtain and study catalogs from the institution before registering in the Liberal Studies program at Stout. Correspondence with officials of the selected college will also help to determine the most relevant courses and assure acceptance of the credits.

Certain courses are basic to almost every college curriculum:

Two semesters of English Composition; Mathematics; One year of a laboratory science (biology, chemistry, or physics); Two semesters of history (either United States History or History of Western Civilization); Speech; Foreign Language; and Physical Education.

Other subjects frequently required for college graduation or frequently recommended as electives include: literature, sociology, economics, American government, additional laboratory science, additional mathematics, psychology, philosophy, additional speech, theatre, art, and music.

Certain professional schools have specific requirements, but usually a year or more of pre-professional work can be transferred to other colleges or universities in the professions of:

Agriculture	Medicine
Architecture	Nursing
Commerce	Pharmacy
Dentistry	Physical Therapy
Education	Medical Tech.
Engineering	Social Work
Journalism	Veterinary Medicine
Law	

In addition to the Liberal Studies courses there are many technical and professional courses in the other schools of the University which would apply in specific professional curricula.

Specifically, Stout has a cooperative arrangement with Madison General Hospital School of Nursing for entrance into a three-year program. Details may be obtained from the Office of New Student Advisement.

Pre-professional courses should be carefully selected by studying the catalogs and corresponding with officials of the professional schools.

ANTHROPOLOGY

303-220 INTRODUCTION TO CULTURAL ANTHROPOLOGY 3 Cr.

chosen by the instructor, individual or the group.

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245-x98 FIELD EXPERIENCE — HOTEL AND RESTAURANT 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Prerequisite: 245-140.

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Two semesters of English Composition; Mathematics; One year of a laboratory science (biology, chemistry, or physics); Two semesters of history (either United States History or History of Western Civilization); Speech; Foreign Language; and Physical Education.

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ANTHROPOLOGY

303-220 INTRODUCTION TO CULTURAL ANTHROPOLOGY 3 Cr.

Introduction to concepts and methods, variability of culture, outline of cultural elements, processes of cultural change.

ART

304-100 DRAWING 3 Cr. Concentration on the development of visual sensitivity through drawing with various media.

304-101 FUNDAMENTALS OF DESIGN 3 Cr. Elementary design in two and three dimensions using various media with the intention of developing visual sensitivity.

304-202 INTRODUCTION TO ART 2 Cr. Principles of visual organization, the expressive possibilities offered by materials and the level of meaning and appreciation possible in the visual arts.

304-453 ADVANCED PRINTMAKING 1-3 Cr. Concepts and techniques for the experienced printmaking student who wishes to extend work in any of the four methods learned in 304-517 and 304-518. Prerequisite: 304-517, 304-518.

304-500 DRAWING 1-3 Cr. Continuation of 304-100 with emphasis placed on the exploitation of media for creative and expressive ends. Prerequisite: 304-100.

304-501 LIFE DRAWING 3 Cr. The human figure in action and at rest. Problems in figure composition. Prerequisite: 304-100, 304-500.

304-502 LIFE DRAWING 1-3 Cr. Advanced problems in figure composition and in graphic interpretation of the figure. Prerequisite: 304-501.

304-503 DESIGN 3 Cr. Development of ideas presented in 304-101 in depth and complexity. Prerequisite: 304-101, 304-500.

304-504 INTERIOR DESIGN 3 Cr. Problems involving the design, selection, and arrangement of furnishings for living and working quarters. Prerequisite: 304-101.

304-505 PROBLEMS IN INTERIOR DESIGN 2 Cr. Advanced work in the design, selection and arrangement of furnishings for living and working quarters. Prerequisite: 304-504.

304-506 COSTUME DESIGN 2 Cr. Development of original designs for clothing. Prerequisite: 214-266, 304-101, 304-100, 304-500.

304-509 PAINTING 3 Cr. Introduction to the character and use of various painting media. Work from still life and life with reference to problem of two dimensional color composition. Prerequisite: 304-500.

304-510 PAINTING 1-3 Cr. Advanced work in oil painting, with reference to the exploitation on the medium for creative and expressive ends. Prerequisite: 304-509.

304-511 SCULPTURE 3 Cr. Introduction to sculptural concepts. Prerequisite: 304-500 or equivalent.

304-512 SCULPTURE 1-3 Cr. Advanced problems in sculpture with reference to the exploitation of media for creative and expressive ends. Prerequisite: 304-511.

304-513 CERAMICS 3 Cr. Basic design

and techniques of ceramic production for the artist-potter; forming, firing, and decorating.

304-514 CERAMICS 1-3 Cr. Techniques in the use of clay, glazes, and kiln for the design and production of high fired ceramics. Prerequisite: 304-513.

304-515 ART METAL 3 Cr. The design and construction of objects in precious metals. Prerequisite: 304-101 or equivalent.

304-516 ART METAL 1-3 Cr. Advanced problems in the design and construction of objects in precious metals. Prerequisite: 304-515.

304-517 PRINTMAKING 3 Cr. The techniques of relief and lithographic printmaking. Prerequisites: 304-101, 304-100, 304-500.

304-518 PRINTMAKING 1-3 Cr. The techniques of intaglio and serigraphic printmaking. (May be taken for one-three credits when the first two three-credit courses in each area, which are required, have been completed.) Prerequisites: 304-101, 304-200, 304-500.

304-522 MODERN ART 3 Cr. The main currents and developments in art from Monet and Cezanne to 1950.

304-523 SURVEY OF ART: ANCIENT THROUGH MEDIEVAL 3 Cr. The painting, sculpture, architecture and minor arts in the ancient Western World.

304-524 SURVEY OF ART: THE RENAISSANCE THROUGH THE 20TH CENTURY 3 Cr. Sculpture, painting, architecture and minor arts of

the western world from 14th Century to present.

304-525 EGYPTIAN AND MESO-POTAMIAN ART 3 Cr. The evolution of the arts of ancient Egypt and the Near East.

304-526 GREEK AND ROMAN ART 3 Cr. The arts of ancient Greece and Rome.

304-527 MEDIEVAL ART 3 Cr. The arts of Europe and Byzantium from the later Roman Empire to the end of the Middle Ages.

304-528 ITALIAN RENAISSANCE ART 3 Cr. The problems and the evolution of Italian Renaissance sculpture and painting from the 14th to the 18th Century.

304-529 NORTHERN RENAISSANCE ART 3 Cr. The evolution of Renaissance art in northern Europe from the 15th to the 18th Century.

304-530 NORTHERN BAROQUE ART 3 Cr. Architecture, painting, sculpture and other art forms of 17th Century northern Europe.

304-531 SOUTHERN BAROQUE ART 3 Cr. The development of art in northern Europe from the Italian Renaissance to the 18th Century.

304-532 ECONOMICS OF HOUSE FURNISHING 3 Cr. Study of consumer home furnishing problems based on utilitarian, economic, aesthetic and social values of household commodities. Quantity and quality budgets at different price levels. Visits to home furnishing markets.

304-533 PERIOD FURNISHINGS 3 Cr. A survey of furniture and furnishings in the Western World.

304-534 FASHION ILLUSTRATION 2 Cr. Problems in graphic techniques, fashion illustration, contemporary fashion design and advertising presentation. Prerequisite: 304-101.

304-535 THE ART OF THE BLACK 3 Cr. Examines the art of the Black proceeding from its genesis in Africa, its influences on 20th Century Europe and its development in the United States from the Colonial Period to the present.

304-600 EIGHTEENTH CENTURY EUROPEAN ART 3 Cr. The evolution of European art forms during the 18th Century.

304-601 PRE-COLUMBIAN ART 3 Cr. The arts of the Americas, including Incan, Mayan, and Aztec from 1200 B.C. to about 1550 A.D.

304-602 AMERICAN ART 3 Cr. The development of the visual arts in the United States from the Colonial Period to 1950.

304-603 NINETEENTH CENTURY ART IN EUROPE 3 Cr. History of European art from about 1800 to 1900.

304-604 ART SINCE 1950 3 Cr. Developments in painting and sculpture in Europe and America since 1950.

304-605 ORIENTAL ART 3 Cr. Art from prehistoric times to the 19th Century in India and the Asian sub-continent.

304-606 ORIENTAL ART 3 Cr. Art from

prehistoric times to the 19th Century in China, Japan and their spheres of influence.

304-607 ESTHETICS 3 Cr. A seminar based on a study of statements by philosophers on art. Prerequisite: 304-522.

BIOLOGY

308-122 BIOLOGY: AN ENVIRONMENTAL APPROACH 3 Cr. Principles such as cellular metabolism, heredity, and relationships between living organisms and their environment are emphasized in this course.

308-132 PHYSIOLOGY AND ANATOMY 4 Cr. The basic concepts of physiological processes and anatomy of all organ systems of the human beings based on dissection of the cat; embryological development.

308-142 BOTANY 4 Cr. An introduction to the structure and function of plants; survey of the plant kingdom; structure and life history of representative forms of plant life.

308-150 MAN AND THE ENVIRONMENT 2 Cr. Man's relationship to the world environment. Contemporary problems such as air and water pollution; biocides; solid waste disposal; depletion of natural resources; the menace of overpopulation; and the impending food crisis.

308-152 ZOOLOGY 4 Cr. An introduction to the fundamental concepts of animal life; survey of the animal kingdom; structure and physiology of representative animals; evolutionary relationships.

308-206 GENERAL MICROBIOLOGY 4 Cr. Structure and physiology of yeasts, molds, and bacteria. Growth requirements; methods used in culture and identification; introductory studies in bacterial analysis of water and milk; other problems in sanitation and food bacteriology.

308-250 ENTOMOLOGY 3 Cr. Identification, classification and control of insects found in the home, garden and nature. Prerequisite: 308-122, 308-152.

308-332 GENETICS 2 Cr. Fundamental principles of genetics, their functions and applications to plants, animals and man.

308-333 GENETICS LABORATORY 1 Cr. Perform genetic crosses which reinforce an understanding of the principles of heredity. *Drosophila* (fruit fly) will be the primary experimental organism. Selected exercises are designed to give actual experience in test breeding, observing, tabulating and interpreting results such as would be done in actual genetic research. Prerequisite: 308-332.

308-342 COMMUNITY HYGIENE 2 Cr. Disease prevention through education, sanitation, isolation, and immunization. Public health programs and operation of federal and state laws.

308-350 ECOLOGY 3 Cr. Interrelationships of organisms with their abiotic and biotic environments. Prerequisites: 308-142, 308-152 or parallel.

308-362 ADVANCED PHYSIOLOGY 3 Cr. Physiological processes: digestion, respiration, metabolism, excretion, circulation, and muscle. Histological studies of blood; experiments of frog and

turtle hearts; nerve and muscle preparation. Respiratory, nerve, circulatory, and muscle experiments on the human body. Prerequisite: 308-132.

308-506 FOOD MICROBIOLOGY 3 Cr. Fundamental methods of food preservation, their effectiveness, and the related spoilage of food products by microorganisms. Quality control techniques employed in determining the presence of specific groups of economically important microorganisms. Prerequisite: 308-206.

308-520 COMPARATIVE ETHOLOGY I 2 Cr. A comparative study of the biological basis of human behavior. Primary emphasis will be given to the applicability of the development of animal behavior patterns to human beings. The phylogenetic adaptations of human behavior are to be examined to consider their theoretical importance for the study of the behavioral sciences.

308-521 COMPARATIVE ETHOLOGY II 2 Cr. A comparative study of biological basis of human behavior. Primary emphasis to be given to the applicability of the development of animal behavior patterns to human beings. The phylogenetic adaptations of human behavior are to be examined to consider their theoretical importance for the study of the behavioral sciences.

308-550 SEMINAR IN ADVANCED COMPARATIVE ETHOLOGY I 2 Cr. An extension of Comparative Ethology (308-520, 308-521). An exploration of phylogenetic adaptations of human behavior, utilizing the comparative model developed in 308-520 and 308-521. Emphasis on the detailed study of sensory, central and motor behavior of animals as they relate to human behavior.

308-551 SEMINAR IN ADVANCED

COMPARATIVE ETHOLOGY II 2 Cr. An extension of Comparative Ethology (308-520, 308-521). An exploration of phylogenetic adaptations of human behavior, utilizing the comparative model developed in 308-520 and 308-521. Emphasis on the detailed study of sensory, central and motor behavior of animals as they relate to human behavior. Prerequisite: 308-550.

BUSINESS ADMINISTRATION

The courses for Business Administration 309-206 to 309-690 can be found under the School of Industry and Technology following course number 190-637.

CHEMISTRY

311-090 FUNDAMENTALS OF CHEMISTRY 3 Cr. For students having an inadequate background preparation in mathematics or basic chemistry. The fundamental principles of atomic and molecular structure, the behaviors of substances and the quantitative relationships arising from these principles and behaviors are stressed. Credit earned in this course cannot be counted toward fulfilling graduation requirements of any program.

311-111 PROJECT APPROACH TO CHEMISTRY 5 Cr. An experimental course which can be used as meeting the requirements of 311-115 but which cannot be used for any prerequisite purposes. The course content and laboratory work is variable, depending upon the interests of particular students and consists of work on projects of interest to the student involving chemistry at the level of sophistication of first year college chemistry. After a short introduction to the use of the chemical literature, the student is expected, working alone or in a group of like-minded students, to read the literature which pertains to the chosen project and then to engage in the

experimental and theoretical work of the project, using the instructor as a resource source. At culmination the results of this effort can be presented to the class in the form of a formal report.

311-115 INTRODUCTORY COLLEGE CHEMISTRY 5 Cr. The principles of Chemistry presented in a descriptive framework which does not emphasize mathematical analysis and emphasizes the application of basic concepts to contemporary problems including materials, their processing, uses and environmental effects.

311-135 COLLEGE CHEMISTRY I 5 Cr. Principles of inorganic chemistry and the properties of important elements and compounds. Approach is more rigorous and coverage more extensive than in 311-115.

311-136 COLLEGE CHEMISTRY II 4 Cr. Reactions and properties of common elements and inorganic compounds; oxidation-reduction and solution equilibria; electrochemistry. Laboratory procedures for qualitative analysis for common ions. Prerequisite: 311-115 or 311-135.

311-201 ORGANIC CHEMISTRY LECTURE 3 Cr. An introduction to the chemistry of carbon compounds with emphasis on the characteristic reactions of the several functional groups. Aliphatic and aromatic compounds are studied concurrently. 311-203 normally taken concurrently with 311-201. Prerequisite: 311-115 or 311-135.

311-203 ORGANIC CHEMISTRY LABORATORY 1 Cr. Laboratory work normally taken concurrently with 311-201. Prerequisite: 311-201 (concurrently).

311-204 ORGANIC CHEMISTRY II LECTURE 3 Cr. Basic organic chemistry with emphasis on organic reaction mechanisms. 311-206 normally

taken concurrently with 311-204. Prerequisites: 311-115 or 311-135, and 311-201.

311-206 ORGANIC CHEMISTRY II LABORATORY 1 Cr. Laboratory work normally taken concurrently with 311-204. Prerequisites: 311-201, 311-203 and concurrent with 311-204.

311-501 PHYSICAL CHEMISTRY 3 Cr. Fundamental physical chemistry; the behavior of gases, the liquid state, the properties of solutions, the principles of thermodynamics, thermochemistry. 311-503 is normally taken concurrently. Prerequisites: 311-115 or 311-135, 355-156, (311-531 recommended).

311-503 PHYSICAL CHEMISTRY LABORATORY 1 Cr. Laboratory which may accompany physical chemistry, normally taken concurrently. Experimental techniques and apparatus. Treatment of experimental data. Prerequisites: 311-115 or 311-135, 355-156, (311-531 recommended).

311-511 BIOCHEMISTRY 3 Cr. Fundamental chemistry and metabolism of carbohydrates, lipids and proteins. Second and third order structure of proteins. Chemistry of nucleic acids. Nature and dynamics of enzymes and enzyme action. Biological oxidations. Laboratory work involving polarimetry, colorimetry, chromatography and quantitative analytical procedures such as the Kjeldahl determination of protein nitrogen. Prerequisites: 311-201, 308-132.

311-515 FOOD CHEMISTRY 3 Cr. Organic biochemistry of foods with emphasis on the enzymatic and non-enzymatic changes associated with food preparation and storage, such as the Millard-Browning reaction, denaturation of protein, changes in color, flavor, odor, texture and nutritive value. Techniques for the isolation and

identification of the biochemical constituents of foods. Prerequisite: 311-115 or 311-203 lecture, (311-531 and 311-511 recommended).

311-521 TEXTILE CHEMISTRY 3 Cr. Chemical and physical properties of monomers and high polymers of the following natural and synthetic fibers: cotton, cellulose derivatives, silk, wool, linen, nylon, polyesters, acrylics, olefins and polyurethanes. Laboratory analysis of textile fibers and textile fiber mixtures and dyestuffs; physical properties of textiles, synthesis of textile polymers, crease resistance. Textile finishing. Prerequisite: 311-115.

311-525 CHEMISTRY OF POLYMERS 3 Cr. An elementary study of the chemical and physical nature of polymers and of the methods of preparation and the uses of the principal types of polymeric substances. Prerequisite: 311-201.

311-531 QUANTITATIVE ANALYSIS 3 Cr. Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques. Prerequisite: 311-115 or 311-135.

311-535 INSTRUMENTAL METHODS OF ANALYSIS 3 Cr. Application of instrumental methods to chemical analysis, including electrochemical methods; ultraviolet, visible, and infrared spectrophotometry, radiochemical methods, and applications of common instrumental methods. Techniques for obtaining reliable results by instrumental means. Prerequisite: 311-115 or 311-135, (311-531 recommended).

311-541 CHEMISTRY OF MATERIALS 3 Cr. The practical applications of the principles and facts of chemistry to technological problems. Topics include: the structure and

properties of common materials; fuels — solid, liquid, gaseous, fossil, nuclear — and air pollution; water — domestic, industrial, sewage — and water pollution; electrical properties — cells, batteries, fuel cells, electrolysis — and corrosion of metals; protective coatings — paints, varnishes, enamels, lacquers, plating, anodizing, cladding, etc. Prerequisite: 311-115 or 311-135.

311-551 CHEMISTRY OF INDUSTRY I 4 Cr. A study of the chemistry of the materials used in industry and of industrial production processes. Prerequisite: 311-115 or 311-135 or equivalent.

311-552 CHEMISTRY OF INDUSTRY II 3 Cr. A study of the chemistry of the materials used in industry and of industrial production processes, including instrumentation and testing procedures, research techniques, scientific information and communication and industrial health and safety. Prerequisite: 311-551 or equivalent.

311-553 ENVIRONMENTAL CHEMISTRY 2 Cr. Environmental Chemistry is a course designed to present the principles and origins of those chemical reactions which lead to an ecological imbalance. Emphasis will be placed on systems which have contributed to large scale environmental pollution and/or which are of current importance and the study of chemical technology needed to correct this imbalance. Prerequisite: 311-115 or high school chemistry.

311-555 ENVIRONMENTAL CHEMISTRY LABORATORY 1 Cr. Environmental Chemistry Laboratory is designed to allow non-science students to perform qualitative and quantitative determinations for common environmental contaminants. The course should be taken subsequent to or along with Environmental Chemistry lecture. Prerequisite: 311-553 or concurrently with 311-553.

311-561 INDUSTRIAL ORGANIC CHEMISTRY 3 Cr. An introduction to the common industrial organic chemical processes used for the preparation of raw materials and their processing into usable forms suitable for product manufacturing. Prerequisite: 311-201, 311-203, one semester or its equivalent.

ECONOMICS

320-201 GENERAL ECONOMICS 3 Cr. Introduction to the basic elements of economics. Analysis of economic institutions, issues, and policy; theories of price, national income, and employment. Not open to students taking 320-210 and 320-215.

320-207 MONEY AND BANKING 3 Cr. Nature of money and bank credit; modern monetary theories; monetary policy. Emphasis on economics aspects rather than institutional description. Prerequisite: 320-201 or 320-210.

320-210 PRINCIPLES OF ECONOMICS I 3 Cr. Basic economic concepts and economic institutions, national income and employment analysis, business fluctuations, money and banking; monetary fiscal policies.

320-215 PRINCIPLES OF ECONOMICS II 3 Cr. Price theory, income distribution, factor pricing, market mechanisms, functions of economic system, labor and collective bargaining and international economics. Prerequisite: 320-210.

320-370 COMPARATIVE ECONOMIC SYSTEMS 3 Cr. Functions of all economic systems. Theories of capitalist, communist, and socialist systems. Comparison of the systems of different countries. Prerequisite: 320-215.

320-410 MICROECONOMICS 3 Cr. Microeconomics: value and distribution theory; analysis of demand-firm, industry and utility; pricing of factors of production. Prerequisite: 320-215.

320-415 MACROECONOMICS 3 Cr. Macroeconomics: determination of income, employment, growth rates, and price levels. Monetary and fiscal policies necessary for full employment. Prerequisite: 320-215.

320-420 LABOR ECONOMICS 3 Cr. History of organized labor chiefly in Western industrial societies. Collective bargaining as viewed by labor, management, government, and the public. Basic labor economics; the institutions involved in modern labor relations. Prerequisite: 320-201 or 320-210.

320-425 ECONOMIC DEVELOPMENT 3 Cr. Social and economic factors underlying economic development. Capital formation, measurement of growth, population problems. Considers both theory and practical problems. Prerequisite: 320-215.

320-430 HISTORY OF ECONOMIC THOUGHT 3 Cr. Principle economic writings of classical, neoclassical, and contemporary economists. Prerequisite: 320-215.

320-445 PUBLIC FINANCE 3 Cr. Survey of public finance at all governmental levels; taxation, expenditures, debt management, and fiscal policy. Prerequisite: 320-215.

320-470 ECONOMIC MODEL BUILDING AND FORECASTING 3 Cr. Basic course in the application of quantitative models and methods to forecasting. Prerequisites: 320-215 and 309-325, or equivalent.

320-480 PRINCIPLES OF INTERNATIONAL TRADE 3 Cr. Theory and practice. Capital movements; foreign exchange rates and controls; balance of payments; tariffs. Prerequisite: 320-215.

320-550 MANAGERIAL ECONOMICS 3 Cr. Decision-making in the firm; demand and cost analysis; competitive and non-competitive price systems, marketing problems, capital budgeting, and criteria for investment decisions. Prerequisite: 320-215.

320-610 CONTEMPORARY AMERICAN ECONOMIC PROBLEMS 3 Cr. Survey of domestic economic problems at advanced level with special emphasis on applications and effects on industry.

320-615 CONTEMPORARY INTERNATIONAL ECONOMIC PROBLEMS 3 Cr. Survey of international economic problems at advanced level with special emphasis on application and effects on domestic industry.

ENGLISH AND JOURNALISM

326-090 ENGLISH WRITING LABORATORY 1 1/2 Cr. Remedial writing course open to all students and taken on a pass-fail basis. The course is designed for those students who have particular writing problems and who need instruction and individual help. Credit earned for English 090 will not count toward graduation nor fulfill the English requirement.

326-101 FRESHMAN ENGLISH: COMPOSITION 3 Cr. The principles and practices of writing. Includes a documented paper.

326-102 FRESHMAN ENGLISH: READING AND RELATED WRITING

3 Cr. Readings focused on a theme reflected in literature. Specific topics and approaches are developed by each instructor. Opportunity for the student to do responsible, independent study. Requires intensive practice in composition. Includes a documented paper. Prerequisite: 326-101.

326-111 FRESHMAN ENGLISH: HONORS 3 Cr. Readings in world literature and related writing designed for training in techniques of composition. Includes a documented paper. Prerequisite: Departmental selection on basis of ability.

326-112 FRESHMAN ENGLISH: HONORS 3 Cr. Continuation of 326-111 (Honors). Prerequisite: Departmental selection on basis of ability, 326-101 or 326-111.

326-203 POETRY 3 Cr. Basic approach to narrative, dramatic, lyric poetry with emphasis on contemporary writers. Prerequisite: 326-102 or 326-112.

326-204 THE SHORT STORY 3 Cr. The style, structure, history and development of the short story as a literary form. Prerequisite: 326-102 or 326-112.

326-250 CLASSICAL AND BIBLICAL LITERATURE IN TRANSLATION 3 Cr. Selections from Greek, Hebrew, and Latin literature. Prerequisite: 326-102 or 326-112.

326-300 CHILDREN'S LITERATURE 3 Cr. Critical and evaluative survey of literature for young children with practical application to children and writing for them. Prerequisite: 326-102 or 326-112.

326-306 REPORTING AND NEWS WRITING 2 Cr. Theory and practice of

news gathering and reporting, journalistic style, copy and proofreading. Discriminative newspaper reading; the history of journalism, libel. Prerequisite: 326-102 or 326-112.

326-339 INTRODUCTION TO LINGUISTICS 3 Cr. An introduction to scholarly writing on the nature of language and the fundamental concepts and methodology of linguistic science, stressing those aspects which are accepted by most linguists. Prerequisite: 326-102 or 326-112.

326-340 THE STRUCTURE OF ENGLISH 3 Cr. New analytic and descriptive methods applied to modern English. Prerequisite: 326-102 or 326-112.

326-344 CONTEMPORARY RHETORIC 3 Cr. The theory and contemporary practice of the art of written persuasion. Includes a documented investigative paper. Prerequisite: 326-102 or 326-112.

326-345 CREATIVE WRITING 3 Cr. All aspects of imaginative writing. Prerequisite: 326-102 or 326-112.

326-346 EXPOSITORY WRITING 3 Cr. Factual writing including preparation of documented investigative paper. Prerequisite: 326-102 or 326-112.

326-347 CRITICAL WRITING 3 Cr. The art of evaluation and judgement. The writing of critical reviews and articles. Includes a documented critical paper. Prerequisite: 326-102 or 326-112.

326-348 AMERICAN LITERATURE 3 Cr. American prose and poetry from its beginnings to World War I. Prerequisite: 326-102 or 326-112.

326-350 MODERN BRITISH WRITERS 3 Cr. Selected poetry, prose, and fiction produced since World War I. Prerequisite: 326-102 or 326-112.

326-351 EUROPEAN LITERATURE IN TRANSLATION 3 Cr. Selected poetry, prose, and drama from Dante to present day. Prerequisite: 326-102 or 326-112.

326-360 MODERN AMERICAN WRITERS 3 Cr. Selected poetry, prose, and drama produced since World War I. Prerequisite: 326-102 or 326-112.

326-364 THE COMIC SPIRIT 3 Cr. Studies in the comic impulse and the various forms it has taken at different times. Prerequisite: 326-102 or 326-112.

326-365 THE TRAGIC VISION 3 Cr. Studies in the tragic impulse and the various forms it has taken at different times. Prerequisite: 326-102 or 326-112.

326-370 REGIONALISM AND CULTURAL CONFLICT IN AMERICAN WRITERS 3 Cr. Two interlaced aspects of American writing: the use of geographical region or cultural setting and the inevitable cultural conflicts resulting from economics and social change. Prerequisite: 326-102 or 326-112.

326-371 BLACK LITERATURE 3 Cr. A panorama of Black creative effort through the written work with a fuller study of selected Black writers. Prerequisite: 326-102 or 326-112.

326-400 ENGLISH LITERATURE 3 Cr. Selected English prose and poetry from Beowulf to 1798. Prerequisite: 326-102 or 326-112.

326-401 ENGLISH LITERATURE 3 Cr. Selected prose and poetry from 1798 to modern times. Prerequisite: 326-102 or 326-112.

326-402 CONCEPTS OF LITERARY CRITICISM 3 Cr. A systematic approach to literary theory, criticism, and history. The science and art of form and structure as presented by great critics with emphasis on new criticism.

326-403 HISTORY OF THE ENGLISH NOVEL 3 Cr. Origin and development of the novel. Selected readings. Prerequisite: 326-102 or 326-112.

326-404 RECENT WORLD LITERATURE 3 Cr. Selected readings in Contemporary Literature in Translation. Prerequisite: 326-102 or 326-112.

326-406 SHAKESPEARE 3 Cr. Representative plays of Shakespeare. Study of several plays and selected criticism. Prerequisite: 326-102 or 326-112.

326-410 WRITING AND SELLING FEATURE ARTICLES 2 Cr. Practice in techniques of writing and selling feature articles for appropriate markets. Students are required to submit articles for potential publication. Prerequisite: 326-102 or 326-112.

326-425 COPY EDITING AND PREPARATION 2 Cr. Development of skill in expanding and reducing written materials. Experience in copy reading, proofreading, headlines.

326-450 A DEPTH STUDY IN LITERATURE 3 Cr. A penetrating study of selected writer with reference to sources, forms, and influences. Selected writer varies from semester to semester.

326-515 TECHNICAL WRITING FOR HOME ECONOMICS 3 Cr. An overview of specialized writing done by home economists in business. Experience in preparing reports, letters, and other appropriate materials. Prerequisite: 326-102 or 326-112.

326-516 TECHNICAL WRITING FOR INDUSTRY 3 Cr. A survey of the type of writing current in industry. Writing of business reports and other materials. Prerequisite: 326-102 or 326-112.

326-518 MASS COMMUNICATION IN AMERICAN SOCIETY 3 Cr. History, social implications, and future of the mass media of communications. Prerequisite: 326-102 or 326-112.

326-525 ADVANCED TECHNICAL WRITING 3 Cr. Designed to give students experience in writing technical articles, and to acquaint them with the requirements for publication in professional media. Students will be expected to research, write, and submit individual projects of suitable length and maturity. These projects must be connected with the student's area of specialization. Prerequisites: 326-515, 326-516.

326-541 PSYCHOLINGUISTICS 3 Cr. A study of linguistics behavior and the psychological processes responsible for it.

326-546 RESEARCH REPORTING 2 Cr. Effective organization and presentation of individual research.

FRENCH

328-101 ELEMENTARY FRENCH I 4 Cr. Introduction to basic audio-lingual skills, to the essentials of grammar, and

to reading for comprehension. Supplementary materials are drawn from the cultural heritage of France. Minimum of one laboratory hour will be required.

328-102 ELEMENTARY FRENCH II 4 Cr. A minimum of one laboratory hour will be required. Continuation of 328-101. Prerequisite: 328-101.

328-201 INTERMEDIATE FRENCH I 4 Cr. A minimum of one laboratory hour will be required. Grammar review, vocabulary improvement, oral practice, original composition, and readings that stress French civilization and literature. Prerequisite: 328-102 or two years of high school French.

328-202 INTERMEDIATE FRENCH II 4 Cr. A minimum of one laboratory hour will be required. Continuation of 328-201. Prerequisite: 328-201.

328-301 ADVANCED FRENCH COMPOSITION AND CONVERSATION 2 Cr. A minimum of one laboratory hour will be required per week. The development of skills in writing and speaking correct, idiomatic French. Prerequisite: 328-202 or its equivalent.

328-302 STUDIES IN FRENCH LITERATURE 2 Cr. An introduction to French literature through the study of either a genre, a particular author, or a specific period. Prerequisite: 328-202 or its equivalent.

SPANISH

329-103 ELEMENTARY SPANISH 4 Cr. An introduction of conversational Spanish as it is spoken today in Mexico and South America.

329-104 ELEMENTARY SPANISH 4 Cr. An introduction to conversational Spanish as it is spoken today in Mexico and South America. Prerequisite: 329-103.

HISTORY

338-120 UNITED STATES HISTORY 3 Cr. American history of 1865. Political, economic, and social forces which have shaped the nation to the close of the Civil War. Not available to students who have completed 338-220.

338-121 UNITED STATES HISTORY 3 Cr. Continuation of 338-120. Not available to students who have completed 338-220. Prerequisite: 338-120.

338-140 WESTERN CIVILIZATION 3 Cr. Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation.

338-141 WESTERN CIVILIZATION 3 Cr. A survey of Western civilization from the Reformation to the present.

338-210 MODERN WORLD 3 Cr. Modern trends in terms of historical backgrounds, providing a frame of reference for interpreting the contemporary world. United Nations.

338-220 HISTORY OF AMERICA 3 Cr. Survey of the United States. Not open to those taking the 22-credit minor, nor those who have completed 338-120 or 338-121.

338-340 ENGLISH HISTORY 3 Cr. The social, political, religious, military and economic history of Great Britain from

the Restoration in 1660 to modern times.

338-360 ASIAN HISTORY 3 Cr. A historical survey — political, social, religious, economic. Emphasis on India, China, Japan, and the Philippines during the modern world.

338-380 LATIN AMERICAN HISTORY 3 Cr. A historical survey — political, social, economic — on Middle and South America, pre-Columbian to the present.

338-410 BIOGRAPHY OF WORLD LEADERS 2 Cr. Readings in the biographies and autobiographies of American, European, and modern world leaders.

338-420 RECENT HISTORY OF THE UNITED STATES 2 Cr. American history in the 20th Century. Study of recent world development in which the United States has played a part.

338-430 WESTERN UNITED STATES HISTORY: THE TRANS-MISSISSIPPI WEST 3 Cr. The development of the Trans-Mississippi West in the 19th Century, to include exploration, missionaries, settlement, fur trade, Indian problems, slavery, admission of new states, mining and cattle industries, agriculture, transportation, communication, culture, and land policies.

338-520 ECONOMIC HISTORY OF THE UNITED STATES 3 Cr. Economic evolution of the United States since colonial times. Development of economic problems and the foundations of modern industry. Prerequisite: 320-201 or 320-210.

338-522 AFRO-AMERICAN HISTORY 3 Cr. A social, cultural, and political

history of the Afro-American in the New World, with the main emphasis upon the United States.

338-540 HISTORY OF MODERN RUSSIA 3 Cr. Survey of significant developments in Russia since 1815.

APPLIED MATHEMATICS

354-130 COMPUTATIONAL STATISTICS 2 Cr. Organization and presentation of data, computation of descriptive statistics, regression and correlation theory and computation, elementary sampling theory; introduction to normal and binominal distributions, tests of hypothesis.

354-140 COMPUTER CONCEPTS 2 Cr. Introduction to computing. History of computers, hardware, software, and terminology. Components and functions of computers. Programming concepts and basic applications. How to run programs written by others. Includes the writing of programs in the basic time sharing language.

354-141 DIGITAL COMPUTER PROGRAMMING 2 Cr. Introduction to computer systems and their utilization. Emphasis on translating language, program writing, and debugging.

354-240 INTERMEDIATE COMPUTER PROGRAMMING 3 Cr. An extension of 354-141 to include subprograms, plotter output, disk I/O, and advanced FORTRAN techniques. Introduction to machine and assembly language programming. Prerequisite: 354-141.

354-241 ASSEMBLY LANGUAGE PROGRAMMING 2 Cr. Assembly

language including interrupt concepts, interrupt service routines, and code conversion routines. Prerequisite: 354-141.

354-245 NUMERICAL METHODS 2 Cr. Computer programming and numerical methods for the solutions of equations, simultaneous equations, interpolation, numerical differentiation and integration, statistical analysis. Prerequisites: 354-141, 355-153 or 355-156.

354-331 PROBABILITY AND MATHEMATICAL STATISTICS I 3 Cr. Sets and combinatorial analysis, probability in discrete sample spaces, Bayes' rule, random variables and probability distributions, change of variable, marginal and conditional distributions, expectation, moments and moment generating functions, Chebyshev's theorem, central limit theorem. Prerequisite: 355-153 or 355-156.

354-332 PROBABILITY AND MATHEMATICAL STATISTICS II 3 Cr. Sampling distributions, order statistics, introduction to decision theory, estimation, hypothesis testing, non-parametric methods, regression and correlation, analysis of variance. Prerequisite: 355-154 or 355-157, and 354-331.

354-430 INDUSTRIAL STATISTICS I 2 Cr. Review of statistical methods, hypothesis testing, estimation, goodness of fit, and sampling distributions. Emphasis on design of experiments; statistical problems from business and industry. Prerequisite: 354-130.

354-431 INDUSTRIAL STATISTICS II 2 Cr. Continuation of application of statistics to problems from industry and business. Directed independent work on selected problems. Introduction to

sequential analysis. Prerequisite: 354-332.

354-445 NUMERICAL ANALYSIS 3 Cr. Mathematical theory supporting numerical methods of computer programming for solution of equations, simultaneous equations, numerical differentiation and integration, and approximation procedures. Prerequisites: 354-245, 355-255, 355-275.

354-490 MATHEMATICAL MODELS I 2 Cr. Supervised experiences in the construction of mathematical models for the solution of problems in the area of student needs and interests. Resource materials.

354-491 MATHEMATICAL MODELS II 2 Cr. Continuation of Mathematical Models I. Prerequisite: 354-490.

354-x98 FIELD EXPERIENCE — COMPUTER SCIENCE 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various careers related to the computer.

MATHEMATICS

355-010 FUNDAMENTALS OF ALGEBRA 2 Cr. A review of the fundamental principles of elementary algebra.

355-110 SLIDE RULE 1 Cr. Scientific notation, principles of the slide rule; basic operations including multiplication, division, ratio and proportion, powers, roots, logarithmic and trigonometric functions.

355-116 ELEMENTARY FUNCTIONS OF MATHEMATICS 4 Cr. Review of

the basic concepts of algebra; the real number system, functions, exponents and radicals. Emphasis on trigonometric functions, identities, equations, reduction formulas; application problems. Not open to students who have completed 355-120 or 355-121.

355-118 CONCEPTS OF MATHEMATICS 4 Cr. Elementary concepts in mathematical language and reasoning, sets, number systems and theory, algebraic equations, statistics and probability, geometry, computers. Includes historical survey. Prerequisite: one year high school algebra minimum.

355-120 INTRODUCTORY COLLEGE MATHEMATICS I 4 Cr. Symbolic logic and the nature of proof, set theory, counting numbers, integers, rational numbers, and the real number system.

355-121 INTRODUCTORY COLLEGE MATHEMATICS II 4 Cr. Open sentences, relations and functions, algebra of functions — trigonometric, exponential, and logarithmic. Prerequisite: 355-120.

355-123 FINITE MATHEMATICS WITH APPLICATIONS 4 Cr. Real number system, systems of linear equations and inequalities, sets, functions, vectors, matrices, probability, linear programming, theory of games, Markov chains. Prerequisite: 355-120.

355-153 CALCULUS I 4 Cr. Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions. Not open to students who have completed 355-156, 355-157, or 355-158. Prerequisite: 355-121 or equivalent.

355-154 CALCULUS II 4 Cr. Continuation of Calculus I. Anti-

derivatives; integration theory, techniques, and applications; parametric equations; vectors. Prerequisite: 355-153.

355-156 CALCULUS AND ANALYTIC GEOMETRY I 5 Cr. Review of real numbers, inequalities, absolute values, intervals, and continuity. Analytic geometry of the plane. Limit concepts, derivatives of algebraic functions; definite integral. Not open to students who have completed 355-153 or 355-154.

355-157 CALCULUS AND ANALYTIC GEOMETRY II 5 Cr. Application of the derivative and definite integral. Conic sections, and other algebraic curves. Calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration. Prerequisite: 355-156.

355-158 CALCULUS III 3 Cr. Continuation of formal integration. Parametric equations, polar representation, Cauchy's formula, Taylors theorem, infinite series, vectors, partial differentiation multiple integration. Prerequisite: 355-154 or 355-157.

355-255 DIFFERENTIAL EQUATIONS 3 Cr. Common types of ordinary differential equations of the first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations. Prerequisite: 355-154 or 355-157.

355-262 MODERN GEOMETRY 3 Cr. Vector approach to plane and solid analytic geometry. Lines, conics, spheres, planes, second and third order determinants, distance functions, loci, vector products, transformation of coordinates. Prerequisite: 355-153 or 355-156.

355-275 LINEAR ALGEBRA 3 Cr. Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equation and quadratic forms. Prerequisite: 355-153 or 355-156.

355-370 MODERN ALGEBRA I 3 Cr. Set theory, mappings, equivalence relations and classes, mathematical induction, Peano's postulates, isomorphisms; development of natural numbers, integers, rational, and real numbers; introduction to integral domains and rings. Prerequisite: Two years of college mathematics.

355-371 MODERN ALGEBRA II 3 Cr. Continuation of Modern Algebra I. Rings, integral domains, fields, polynomials, groups, vector spaces. Introduction to the algebra of matrices. Prerequisite: 355-370.

355-450 REAL ANALYSIS I 3 Cr. Rigorous development of advanced topics in analysis. Functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions. Prerequisite: 355-154 or 355-157.

355-451 REAL ANALYSIS II 3 Cr. Continuation of the topics of Real Analysis I. Differentiation, integration, infinite series. Prerequisite: 355-450.

355-460 COMPLEX VARIABLES WITH APPLICATIONS 3 Cr. Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues. Prerequisite: 355-255.

MUSIC

The objective of the Stout music department is to provide musical experience and opportunities for the development of understanding and appreciation of music. The study of this art not only enhances intellectual acumen but also provides aesthetic enjoyment and aids in the development of social coordination through group effort. The organization seeks to further the interest of musical culture and entertainment and to enhance the spirit and character of the university.

The musical organizations are open to any student in the university who can qualify and may be taken for credit as academic electives. All students are invited to attend concerts and may elect music courses and organizations for university credit.

360-090 STAGE BAND 0 Cr. Primarily organized to study and perform the music of the large dance band. Membership by audition only. Membership open to any qualified Stout student.

360-100 APPLIED MUSIC 1 Cr. Private one-half hour lessons on instrument of the student's choice. Some instruments are available from the Music department.

360-101 CLASS PIANO 1 Cr. A study of the techniques of elementary piano performance.

360-134 RUDIMENTS OF MUSIC FOR EARLY CHILDHOOD EDUCATION MAJORS 1 Cr. A study of the fundamental elements of music; i.e. note reading, pitch, rhythm and vocabulary. Emphasis is placed on the use of flutophone, autoharp, rhythm instruments, and the voice in class. A survey of

materials and methods suitable for pre-school music is made. Students completing this course cannot also get credit for 360-135.

360-135 RUDIMENTS OF MUSIC 1 Cr. An integrated survey course in the fundamentals of musicianship. Students completing this course cannot also get credit for 360-134.

360-151 HARMONY 1 Cr. A detailed study of chord construction. All triads in major and minor modes, and dominant sevenths and their inversions. Dispersed harmony. Keyboard work and the playing of cadences.

360-153 MUSIC APPRECIATION 2 Cr. The materials of music as they pertain to perceptive listening. Study is related to a view of music and musicians from medieval times through the contemporary period and seeks to lead the student to a significant awareness of great music.

360-200 APPLIED MUSIC 1 Cr. Group lessons on selected instruments (ukelele and guitar) and voice. Prerequisite: 360-100.

360-234 ADVANCED TOPICS OF MUSIC 1 Cr. A continuation of 360-134 with considerable freedom of specialization according to individual needs, interest, and ability. Prerequisite: 360-134.

360-265 COLLEGE CHOIR 1 Cr. Advanced choral techniques, reading and analysis of choral music of all types and periods. Concert and radio appearances. Membership by audition only.

360-266 STOUT CONCERT BAND 1 Cr. Membership by audition only.

Fundamentals of musical expression, tone production and quality, and special problems of technique. Formal concerts and radio broadcasting. Each spring instrumentalists are selected for the annual tour.

360-267 STOUT SYMPHONIC SINGERS 1 Cr. Membership by audition only. Advanced choral techniques, reading and analysis of choral music of all types and periods. Each spring vocalists are selected for the annual spring tour.

360-268 SOLO AND ENSEMBLE 1/2 Cr. Coaching of advanced performers, both vocal and instrumental, for public performance and radio work. Prerequisite: 360-266 or 360-267.

PHILOSOPHY

365-201 INTRODUCTION TO PHILOSOPHY 3 Cr. Introduction to various fields of philosophy, the history of philosophy, and the nature of philosophical investigation.

365-301 INTRODUCTION TO LOGIC AND SCIENTIFIC METHODS 3 Cr. An examination of the forms of deductive reasoning and the fallacies together with a consideration of the inductive logic of evidence, confirmation, and probability.

365-500 PHILOSOPHY OF TECHNOLOGY 3 Cr. After a brief discussion of the scientific methods and of the interface between science and technology, the student will be introduced to the following problems: the nature and definition of technology; the philosophical implications of technology for man, for human values, for human knowledge and for human society. The course will culminate in the student's philosophical assessment of technology's possible and probable impacts on the future of man.

365-550 PHILOSOPHICAL ETHICS 3 Cr. A problem-oriented study of the area of philosophy which concerns moral decision. This course will involve and enquiry into the various philosophical views on the general norm of morality as well as an investigation into the dynamics of ethical decision in particular areas of life.

PHYSICAL EDUCATION

366-101 PERSONAL HEALTH 1 Cr. The relationship of personal health in the whole person. Of particular interest to the Professional leader in education and community health practices.

366-340 FIRST AID AND SAFETY 2 Cr. American Red Cross requirements for standard and advanced First Aid. Safety practices for emergencies in the home, classroom, playground or business.

366-350 ATHLETIC TRAINING AND CONDITIONING 2 Cr. To provide the student who is considering entering into the field of Physical Education and/or coaching, a basic understanding of the prevention, treatment and care of athletic injuries.

The following 367-1xx courses are all 1/2 credits.

101 APPARATUS
103 ARCHERY-BEGINNING
104 ARCHERY-INTERMEDIATE
105 ARCHERY-ADVANCED
107 BADMINTON
109 BASKETBALL
111 BODY MECHANICS
113 BOWLING
115 CANOE TECHNIQUES
117 CIRCUIT TRAINING
119 CONDITIONING
121 EXERCISE AND FITNESS
123 FENCING

125 FLAG FOOTBALL
126 FOOTBALL
128 FOLK DANCE
130 GOLF-BEGINNING
131 GOLF-INTERMEDIATE
132 GOLF-ADVANCED
134 GYMNASTICS
136 KARATE
138 MODERN DANCE
140 ORIENTEERING
142 OUTDOOR SKILLS
144 PADDLEBALL
146 RACKET AND HANDBALL
148 RELAXATION
150 RIDING
152 SKIING
154 SOCIAL DANCE
156 SOCCER
159 SOFTBALL
160 SPEEDBALL
163 SWIMMING-BEGINNING
164 SWIMMING-ADV. BEGINNING
165 SWIMMING-INTERMEDIATE
166 SWIMMING-SWIMMERS
167 SWIMMING-ADVANCED
168 SWIMMING
171 SYNCHRONIZED SWIMMING
172 WATER GAMES
173 SKIN AND SCUBA DIVING
176 TENNIS-BEGINNING
177 TENNIS-INTERMEDIATE
180 TRACK AND FIELD
182 TUMBLING
185 VOLLEYBALL
187 WEIGHT TRAINING
189 WRESTLING

367-201 GYMNASTICS — MEN 2 Cr. Elements of gymnastic tumbling and the use of gymnastic apparatus as a part of a modern program of physical education.

367-202 INDIVIDUAL AND DUAL SPORTS — MEN 2 Cr. History and theories of play. Rules and regulations of individual and dual sports. Badminton, tennis, table tennis, bowling, golf, archery, horseshoes, and practice of the various skills.

367-212 FOUNDATIONS OF PHYSICAL EDUCATION 1 Cr. An interpretation of psychological, physiological and sociological basis of physical education; an image of physical education as a discipline for all students.

367-215 GYMNASTICS — WOMEN 2 Cr. Skills and methods in stunts, tumbling, apparatus and conditioning.

367-225 INDIVIDUAL AND DUAL SPORTS — WOMEN 2 Cr. Skills, rules, and teaching methods in track and field, bowling, tennis, and recreational games.

367-226 INDIVIDUAL AND DUAL SPORTS — WOMEN 2 Cr. Skills, rules, and teaching methods in archery, badminton, and golf.

367-235 RHYTHMIC ACTIVITIES 2 Cr. A teaching methods course in the fields of rhythms-modern, folk, square and social dance.

367-241 SENIOR LIFE SAVING 1 Cr. A Red Cross training program which provides the student with knowledge and skills designed to save his own life or the life of another in the event of an emergency. Prerequisite: ARC Swimmers Level Ability.

367-245 TEAM SPORTS — WOMEN 2 Cr. Skills, rules, and teaching methods in field sports, basketball, volleyball and softball.

367-255 TEAM SPORTS — MEN 2 Cr. Fundamentals and teaching knowledge of the following sports: touch football, soccer, softball, speedball, volleyball, basketball, hockey, and games leading up to team sports.

367-260 RECREATIONAL GOLF 1 Cr. Fundamental principles of golf including skills, history, etiquette and practical application of techniques. The student is required to play 27 holes of golf, pay green fees, and furnish three golf balls for class use.

367-265 PHYSICAL ACTIVITIES FOR PRESCHOOL CHILDREN 2 Cr. A study of the sequential development of physical perceptual skills for children from birth to age five, and perceptual motor activities which can be used to foster this development.

367-306 PHYSICAL EDUCATION FOR HANDICAPPED STUDENT AT SECONDARY LEVEL 2 Cr. Study of diversified program of developmental activities, games, sports, and rhythms suited to the interests, capacities and limitations of students with disabilities who may or may not safely or successfully engage in unrestricted activities of the general physical education program.

367-315 ADAPTED PHYSICAL EDUCATION 3 Cr. A study of diversified developmental activities suited to the interests, capacities and limitations of students with disabilities who may or may not safely or successfully engage in unrestricted activities of a general physical education program.

367-325 RECREATIONAL LEADERSHIP 2 Cr. Objectives, principles, methods, and content of a recreational program. Problems of facilities, equipment, and leadership. Organization and administration of a recreational program for various age levels.

367-340 CAMP LEADERSHIP 2 Cr. Role of camp counselors in relationship to objectives, organization, guidance, leadership skills, and program resources in organized camps; actual practice in camp-craft skills.

367-342 WATER SAFETY INSTRUCTOR 1 Cr. The American Red Cross training course for water safety instructors consists of Part 1 — teaching and testing of swimming, life saving skills, and general knowledge of water safety; and Part 2 — theoretical and practical knowledge and assistance in teaching of Red Cross life saving and water safety courses. Prerequisite: Senior Life Saving.

367-345 OFFICIATING 1 Cr. Designed to give interested persons an opportunity to study rules and techniques for officiating team sports. Prerequisite: 367-245 or 367-255.

367-350 PRINCIPLES OF PHYSICAL EDUCATION 2 Cr. The principles of physical education based on scientific facts and expression of educational ideals. Aims and objectives of physical education as applied to various school levels.

367-370 ELEMENTARY SCHOOL PHYSICAL EDUCATION 2 Cr. Methods and materials for teaching physical education in the elementary school.

367-375 HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION 3 Cr. Physical Education from ancient to modern times stressing relationship to the social situation and to the major philosophies.

367-380 ADMINISTRATION OF INTRAMURAL SPORTS 2 Cr. An overview of the problems, procedure, philosophy and trends currently existing within intramural programs in high schools and universities in the United States.

367-408 METHODS OF TEACHING PHYSICAL EDUCATION 2 Cr. Class

organization and methods of teaching physical education. Participation with actual classes through the required freshman program.

367-450 ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION 2 Cr. The problems that arise in everyday experience of the instructor in physical education. The relationship of physical education to general education; utilization, planning and care of facilities and equipment; time allotment, classification of activities and children, leadership, organization, supervision, routine procedures.

367-460 COACHING BASKETBALL AND FOOTBALL 2 Cr. Fundamentals and methods of teaching and coaching football and basketball. Specific techniques analyzed. Definite plan of offense and defense presented. Rules, practice schedules, fundamentals, theories, and their application.

367-470 COACHING BASEBALL AND TRACK 2 Cr. Fundamentals and methods of teaching and coaching baseball and track. Specific techniques analyzed. Definite plan of offense and defense presented. Rules, practice schedules, fundamentals, theories, and their application.

PHYSICS

372-221 MECHANICS AND ELECTRICITY 5 Cr. A study of the basic concepts in mechanics and electricity. Prerequisite: 355-121 or equivalent.

372-222 HEAT AND THERMODYNAMICS 2 Cr. Concepts of temperature and heat, temperature dependent properties and processes; heat transfer; laws relating heat and

other forms of power. Prerequisite: 372-221.

372-223 LIGHT AND SOUND 3 Cr. General laws of physics in the fields of sound and light. Acoustics, vision, lighting standards, lenses, optical instruments, polarization, and fluorescence. Prerequisite: 372-221.

372-301 FOUNDATIONS OF SCIENCE — PHYSICS 3 Cr. A study of the development of physics, emphasizing how a scientist arrives at new understanding and how he builds on previous knowledge. These ideas are demonstrated through a study of the evolution of some field of science.

372-325 STRENGTH OF MATERIALS 3 Cr. Fundamental theory of strength of materials. Analysis of tension, compression, shear, biaxial tension and compression, torsion, stresses and deflection of beams. Prerequisite: 372-221.

372-527 PHYSICAL ELECTRONICS 3 Cr. Theory and application of semiconductors, vacuum and gas tubes. Basic principles of electronic circuits. Prerequisites: 355-153, 372-221; 110-240 or 110-244.

372-529 ATOMIC AND NUCLEAR PHYSICS 3 Cr. Elements of atomic and nuclear physics and the industrial application of atomic energy. Prerequisites: 372-223, 355-153.

372-531 STATICS 3 Cr. Essential elements of statics including simple force system, theory and application of non-concurrent forces, couples, friction, non-coplanar forces, trusses, and other structures. Prerequisites: 372-221, 355-153, 354-141.

372-533 DYNAMICS 3 Cr. Essential elements of dynamics including rectilinear, angular, and harmonic motions; forces producing motion, work, energy, acceleration, impulse and momentum. Prerequisite: 372-531.

372-535 OPTICS 3 Cr. Geometrical and physical optics. Optical instruments, spectrum analysis, diffraction, interference, polarization and lasers. Prerequisites: 372-223, 355-154.

372-537 ELECTRICITY AND MAGNETISM 3 Cr. The properties of electric and magnetic fields in free space and in material media. Prerequisites: 372-221 and 355-157 or 355-154.

372-641 FLUID MECHANICS 3 Cr. The basic properties of fluids in motion are developed for both compressible and incompressible fluids. The equations of fluid flow are developed and solved for both rotational and irrotational flows. Prerequisites: 372-533 and 355-154.

372-705 CLASSICAL PHYSICS IN INDUSTRY 3 Cr. Selected topics in classical physics are studied. Emphasis is placed on topics that have important industrial applications. Prerequisite: 372-221.

372-706 MODERN PHYSICS IN INDUSTRY 3 Cr. Selected topics in modern physics are studied. Emphasis is placed on topics that have important industrial applications. Prerequisite: 372-221.

POLITICAL SCIENCE

375-210 GOVERNMENT 3 Cr. Functioning of governmental units in the U.S.A. Political principles,

processes, problems; constitutional principles. Comparison of selected foreign governments.

375-220 STATE AND LOCAL GOVERNMENT 3 Cr. State and local governments within the U.S. federal system. Prerequisite: 375-210.

375-310 POLITICAL PARTIES AND PRESSURE GROUPS 3 Cr. Analysis of modern political parties. Nominating methods, campaigns, elections. Practical politics in legislative bodies; machines and bosses. Prerequisite: 375-210.

375-320 CIVIL LIBERTIES IN THE UNITED STATES 3 Cr. The constitutional basis of the rights of minority groups; emergent trends in voting rights; free speech, freedom of religion, censorship, rights of defendants, and limitations of dissent. Prerequisite: 375-210.

375-340 INTERNATIONAL RELATIONS 3 Cr. World survey of conditions determining power relationships, i.e., balance of power, collective security, and deterrence; analysis of the role of international organizations in world politics.

375-345 PROBLEMS OF AMERICAN FOREIGN POLICY 3 Cr. Descriptive analysis of the way American foreign policy is formulated by federal agencies; persistent problems in national security and international stability. Prerequisite: 375-210.

375-350 INTRODUCTION TO COMPARATIVE GOVERNMENT 3 Cr. Political institutions of major foreign nations, stressing comparison of basic principles and techniques with those of the United States; survey of political institutions of underdeveloped areas. Prerequisite 375-210.

375-550 POLITICS AND TECHNOLOGY 3 Cr. A contemporary and future look at technological innovations will show an increased relationship between the political institutions of a country and the promotion, regulation, and impact of industry and technology. This relationship will be explored in the United States as well as other selected countries.

SOCIOLOGY AND SOCIAL WORK

387-110 INTRODUCTORY SOCIOLOGY 3 Cr. Social interaction in human groups. Relationships between the individual and the group; basic institutions; social change and current trends.

387-205 INTRODUCTION TO SOCIAL WORK 3 Cr. The field of social work as a profession; history and philosophy of social services; basic information for teachers, counselors, and those interested in the profession. Prerequisite: 387-110.

387-215 SOCIOLOGY OF THE FAMILY 3 Cr. The family as an institution. History; variations in other cultures; relationships to other institutions. Interactions of members in various stages of the life cycle. Prerequisite: 387-110.

387-250 SOCIAL PSYCHOLOGY 3 Cr. The theory of social interaction and its applications with special emphasis on communication. Prerequisite: 387-110.

387-310 SOCIOLOGY OF EDUCATIONAL INSTITUTIONS 3 Cr. A study of the social aspects of education

including the school as an agent of socialization, role of the school in social change and in maintaining the status quo, the social of education, the control of educational institutions, and the relationship of educational institutions to other social institutions.

387-515 PROBLEMS OF AMERICAN SOCIETY 3 Cr. Sociological perspective on selected social problems. Prerequisite: 387-110.

387-525 SOCIOLOGY OF LEISURE 3 Cr. An institutional approach to the effects of leisure on social structure; the values reflected in leisure; problems attending the increase in leisure resources. Prerequisite: 387-110.

387-530 SOCIOLOGY OF THE COMMUNITY 3 Cr. Structure of the community, chiefly in the U.S. Variability and current trends; research techniques; community development. Prerequisite: 387-110.

387-540 SOCIOLOGY OF WORK 3 Cr. Human behavior in various types of employment and occupations; trends in the occupational structure of the U.S. Prerequisite: 387-110.

387-560 SOCIOLOGY OF JUVENILE DELINQUENCY 3 Cr. Definitions and trends of deviant behavior among youth; research findings; efforts toward prevention, control, and treatment. Prerequisite: 387-110.

387-575 SOCIOLOGY OF MINORITY GROUPS 3 Cr. Social-psychological aspects of the interaction between majority and minority groups; trends of minorities in the United States. Prerequisite: 387-110.

SPEECH

391-100 FUNDAMENTALS OF SPEECH 2 Cr. Techniques of effective speech based upon diagnosis of individual needs and training for the improvement of the necessary skills. Emphasis on speaker-listener relations, speech organization, voice, bodily action, language, and the development of confidence and poise.

391-101 FORENSICS 1 Cr. Training in speech through participation in intercollegiate forensics, including oral interpretation, oratory, extempore speaking, after-dinner speaking, debate, discussion, and preparation of speech programs.

391-102 FORENSICS 1 Cr. Training in speech through participation in intercollegiate forensics, including oral interpretation, oratory, extempore speaking, after-dinner speaking, debate, discussion, and preparation of speech programs.

391-103 FORENSICS 1 Cr. Training in speech through participation in intercollegiate forensics, including oral interpretation, oratory, extempore speaking, after-dinner speaking, debate, discussion, and preparation of speech programs.

391-104 FORENSICS 1 Cr. Training in speech through participation in intercollegiate forensics, including oral interpretation, oratory, extempore speaking, after-dinner speaking, debate, discussion, and preparation of speech programs.

391-110 SPEECH FOR INTERNATIONAL STUDENTS 1 Cr. Practical experience in communications in

various situations. Individual and group attention to speaking and listening through the use of phonetics and tape recordings. Length of course varies with individual progress.

391-130 THEATRE WORKSHOP 1 Cr. Practical experience in directing, acting, and/or stagecraft through participation in University Theatre productions. Prerequisite: 391-100.

391-131 THEATRE WORKSHOP 1 Cr. Continuation of Speech 130. Further experience in some phase of play production in University plays. Prerequisite: 391-130.

391-200 PERSUASIVE SPEAKING 2 Cr. Advanced techniques of speaking. Development of proficiency in audience analysis, speech composition and delivery of various types of speeches. Prerequisite: 391-100.

391-202 ORAL INTERPRETATION 2 Cr. Individual and group activities for developing skill in a variety of speech situations. Projects in analysis and delivery of literature. Special consideration of individual problems. Prerequisite: 391-100.

391-204 TECHNIQUES OF GROUP LEADERSHIP 2 Cr. Techniques for presiding at various meetings through use of parliamentary law. Training in the art of persuasion as a means of motivating and guiding the behavior of others. Prerequisite: 391-100.

391-206 DISCUSSION 2 Cr. Principles and techniques of discussion and debate: Leading and participating in the symposium, panel round-table, and other discussion forms; preparing and presenting debates on current problems.

Prerequisite: 391-100.

391-208 THEORY OF COMMUNICATION 3 Cr. A study of the way people communicate with each other, stressing individual, interpersonal, and public communication. Prerequisite: 391-100.

391-232 INTRODUCTION TO THEATRE 3 Cr. Development of the theatre from ancient times to the present. Emphasis on play styles, production methods, and audience appreciation; including reading of representative plays.

391-244 RADIO PROGRAMMING AND PRODUCTION 3 Cr. Planning, writing, and producing various types of radio programs. Programs may be broadcast from University radio station. Prerequisite: 391-100.

391-310 INTRODUCTION TO SPEECH CORRECTION 2 Cr. The nature, causes, and methods of correcting voice and articulation defects. Prerequisite: 391-100.

391-334 CONTEMPORARY THEATRE 2 Cr. Analysis of selected plays including structure, dramatic content, and production methods. Field trips to current plays. Prerequisite: 391-100.

391-336 STAGECRAFT AND SCENE DESIGN 2 Cr. Technical problems in producing plays; designing the set; construction, painting, and handling scenery; stage lighting; make-up; costuming; sound and visual effects; and organization of the production staff. Prerequisite: 391-100.

391-338 PLAY PRODUCTION 2 Cr. Directing and staging of plays: selecting, rehearsing, and acting techniques. Prerequisite: 391-100.

391-475 DIRECTION OF SPEECH ACTIVITIES 2 Cr. Organization, administration, procedures, and judging of speech activities such as plays, oratory, interpretation, public speaking, discussion and debate. Prerequisite: 391-100.

391-508 SPEECH SKILLS FOR BUSINESS AND INDUSTRY 2 Cr. Training in technical speaking; projects emphasizing the application of speech skills and activities in business and industry. Prerequisite: 391-100.

391-512 SPEECH SKILLS FOR EDUCATORS 2 Cr. Application of leadership techniques and speech skills in classroom and educational activities. Prerequisite: 391-100.

391-554 TELEVISION PROGRAMMING AND PERFORMANCE 3 Cr. Planning, writing, and performing in instructional, public service, special feature, or dramatic television programs. Programs will be produced in cooperation with students in 407-593. Prerequisite: 391-100.

EDUCATION

PROFESSIONAL TEACHER EDUCATION

To qualify for teacher education, students must meet a number of pre-admission requirements. Official entry to teacher education generally occurs the first or second semester of the junior year even though students may have

enrolled in education courses as freshmen or sophomores in some programs.

Pre-admission requirements are: A grade point average of 2.25, which must be maintained through the senior year.

Students must have approval from the Health Department. If a physical examination blank signed by a physician is properly filled out and on record in the office of the Health Department, and no known health problems exist, this approval is automatically provided by the school nurse who sends a signed form to the Dean of Student Affairs. Individuals special and temporary problems in health may apply for admission to the Student Personnel Committee for Teacher Education.

Students wishing to qualify for teacher education must show proficiency in English by earning a "C" in the last course in English Composition or having a transfer record of "C" in such a course from another accredited college or university. If a deficiency exists, a student may elect to do remedial work in English to earn a "C" in the final examination of 102, or earn a qualifying score on the Cooperative English Test administered by the University Counseling Center.

Students entering teacher education must also present evidence of speech proficiency. All students are rated in the first required speech course as to their proficiency. Those rated as unsatisfactory may enroll in the non-credit evaluation program or take a second speech course (391-223, 391-320, 391-325, or 391-406) to attempt to achieve proficiency.

Complete curricula in teacher education are found under American Industry, Art Education, Distributive Education, Home Economics Education, Industrial Education, Early Childhood Education, Vocational Education, and Technical Education. (Department numbers in this section reflect the subject matter area.)

ART EDUCATION

405-408 PRACTICE TEACHING IN THE ELEMENTARY SCHOOL — ART 4 Cr. Directed teaching and community experience in selected off-campus elementary schools. Prerequisites: 405-608 and 405-609.

405-409 PRACTICE TEACHING IN THE SECONDARY SCHOOL — ART 4 Cr. Directed teaching and community experience in selected off-campus secondary schools. Prerequisites: 405-608 and 405-609.

405-608 INTRODUCTION TO TEACHING ART IN THE ELEMENTARY SCHOOLS 3 Cr. Development of basic knowledge and skills needed to foster and extend creative growth in children.

405-609 INTRODUCTION TO TEACHING ART IN THE SECONDARY SCHOOLS 3 Cr. Development of art principles and practices that expand creative growth and development in secondary school students.

405-611 CURRICULUM DEVELOPMENT FOR ART 2 Cr. A study of the needs and methods used in developing a sequential K-12 art curriculum.

COUNSELING AND PERSONNEL SERVICES

413-501 INTRODUCTION TO GUIDANCE 2 Cr. An overview of policies and practices of organized guidance programs in educational settings. Emphasis is given to historical, philosophical, and cultural bases for

guidance services; guidance techniques for teachers; and cooperative efforts of teachers, parents and counselors.

413-629 GUIDANCE IN THE ELEMENTARY SCHOOL 2 Cr. The nature and conditions of guidance in the elementary school. Curricular and non-curricular guidance techniques, referrals, and parent counseling. Recommended principles and practices in guidance applied to the elementary school child.

413-647 BEHAVIOR PROBLEMS OF CHILDREN 2 Cr. Understanding the psychological, social and environmental factors which contribute to the developing child's behavior. Primary emphasis is on the cause and treatment of behavioral disorders in children three through twelve. Included: methods of observing, diagnosing, documenting and interpreting and underlying behavioral dynamics of problem children. Prerequisites: 479-730, 479-760.

413-655 HUMAN RELATIONS IN THE COMMUNITY 2 Cr. Consideration of the social, psychological, medical, physical, spiritual and interpersonal aspects of growing into responsible adulthood.

413-675 COUNSELING THEORY 2 Cr. The examination of theoretical approaches to counseling, including psychoanalytic adaptations, behaviorism, trait-factor, client-centered and other approaches. Each approach is examined concerning the nature of man, the underlying personality theory, goals of counseling, the role of counselor, and illustrative practical applications. The major objective of the course to develop a beginning personal theory of counseling. Prerequisite: 413-501.

413-681 PSYCHOLOGY OF READING 2 Cr. Understanding the principles,

methods and techniques of developmental reading, the psychological as well as the physical and environmental factors affecting the reading process are considered; the assessment of reading abilities including rate, level, and comprehension; reading tests are surveyed and their diagnostic value studies; and the application of these understandings in programs of remedial reading and to study learning skills.

413-690 APTITUDE AND ACHIEVEMENT APPRAISAL 2 Cr. Selection, interpretation, and use of tests and inventories for teachers and counselors. Study of achievement, aptitude, interest and personality tests with experience in the interpretation of results. Prerequisite: 413-501 or 413-629 or 212-264.

413-691 THEORIES OF CAREER DEVELOPMENT 2 Cr. A study of the psychology of work including career development, the meaning of work, job satisfaction and factors in career choice. Prerequisite: 413-501.

DISTRIBUTIVE EDUCATION

416-304 INTRODUCTION TO TEACHING — DISTRIBUTIVE EDUCATION 3 Cr. A methods course correlated with guided experiences involving directed observation and gradual assumption of teaching responsibilities in local schools. Includes the development of lesson plans and teaching aids. Prerequisites: 421-422, 421-303.

416-404 CURRICULUM DEVELOPMENT — DISTRIBUTIVE EDUCATION 5 Cr. Development of an orderly procedure for the identification of concepts, generalizations and instructional units to be used in teaching. Course outlines; analysis of

content; lesson planning; evaluation; management. Prerequisite: 416-304.

416-408 STUDENT TEACHING — DISTRIBUTIVE EDUCATION 8 Cr. Directed teaching and community experiences in selected off-campus schools. Prerequisite: 416-404, 416-304.

416-488 INTERN TEACHING DISTRIBUTIVE EDUCATION 8 Cr. An alternate method of obtaining student teaching experience on both the high school and post high school levels. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester.

EDUCATION

421-185 INTRODUCTION TO EDUCATION OF HANDICAPPED YOUTH 3 Cr. Introduction to educational programs for exceptional students, with emphasis on the educable mentally retarded (EMR).

421-205 A, B, C, D, E, F PROFESSIONAL TEACHER EDUCATION SEMINAR 12 Cr. A continuing seminar and teaching laboratory. Provides substantial information and guidance for the developing teacher. Development of the role of the teacher and controlled practice in teaching.

421-303 EDUCATIONAL PSYCHOLOGY 2 Cr. Introduction to the psychological aspects of the educative processes. Emphasis on application of basic psychological principles to teaching. Focus on learner, learning process, and the teacher as an agent for change. Prerequisite: 479-110.

421-422 PRINCIPLES OF SECONDARY EDUCATION 2 Cr. The evolution, status, and trends of secondary education. Needs of our democratic society; philosophy, organizational problems, curriculum development, and the responsibilities of the individual teacher as related to students before they begin student teaching. Prerequisite: 479-110.

421-495 PERSONAL LEARNING EXPERIENCE 2 Cr. An experimental program for juniors and seniors. By permission of program directors. Each student selects an area of life which involves ethical decision and investigates that decision-making process. The group enrolled for this experience meets with the directors twice a week for direction, discussion, and criticism. Self-evaluation paper at the close of the course, which is submitted to the critique of the directors and other members of the learning experience.

421-505 HISTORY OF EDUCATION 2 Cr. Elementary, secondary and higher education in the U.S. from the early colonial period to the present time.

421-522 SECONDARY EDUCATION SEMINAR 2 Cr. For post-student teaching, discussion of the evaluation, status, and trends of secondary education. The experiences of the students' teaching related to the needs of our democratic society; philosophy, organization problems, curriculum development; and the responsibilities of the individual teacher.

421-541 CLASSROOM EVALUATION 2 Cr. Types of tests and test questions; the interpretation of test scores and grades by means of simple statistical procedures; methods of grading manipulative work and assigning final grades.

421-555 ISSUES IN SPECIAL EDUCATION 2 Cr. Acquaintance with current and controversial issues in special education. Prerequisites: 421-185, 479-562.

421-560 EDUCATION OF HANDICAPPED YOUTH: METHODS AND MATERIALS 3 Cr. Design, development and content of curriculum for secondary educable mentally retarded (EMR) students; materials and methods of presentation.

421-561 EDUCATION OF HANDICAPPED YOUTH: EDUCATIONAL MANAGEMENT 3 Cr. A systematic approach to develop skills to diagnose, teach, and organize special education programs. Instructional activities are designed to develop in students the requisite skills to ameliorate behavior and learning problems of handicapped youth. Prerequisite: Concurrent enrollment in 421-562.

421-562 CLINICAL EXPERIENCE WITH HANDICAPPED YOUTH 2 Cr. On campus work and study experiences in educational settings with handicapped youth. This course may be repeated. Prerequisite: Concurrent enrollment in 421-561.

421-590 MENTAL HEALTH IN THE SCHOOLS 2 Cr. A study of the total school community in terms of factors and dynamics contributing to the development or hindrance of the mental health of students, staff, administration, parents.

421-623 LEARNING CONTRACTS IN THE PROCESS OF EDUCATION 1-3 Cr. Historical antecedents and current developments in the use of the contract idea as a part of the educational process. Emphasis will be on the development of learning contracts for on-the-job utilization.

421-630 EDUCATION FOR CHILDREN WITH SPECIAL LEARNING NEEDS 2 Cr. This course examines the characteristics of those students who are slow learners due to below average intelligence, learning disabilities, cultural and social differences, emotional problems, and other causes, and considers the implications for educational practice.

421-641 EDUCATIONAL EVALUATION 2 Cr. Testing, the interpretation of tests by means of simple statistical procedures; methods of evaluating educational programs.

421-650 DRUG EDUCATION FOR TEACHERS 2 Cr. A series of learning experiences designed to provide educational personnel with pertinent information, knowledge and data concerning the nature, use and abuse of drugs in contemporary society. The course is designed to review the contemporary drug scene and provide educators with insight concerning the problem as well as alternative solutions to this problem.

421-660 PRACTICUM IN SPECIAL EDUCATION 2 Cr. Off-campus work and study experiences in educational settings with handicapped youth. This course may be repeated. Prerequisite: Concurrent enrollment in 421-661 and 421-662.

421-661 CAREER EDUCATION FOR HANDICAPPED YOUTH 3 Cr. Techniques for interviewing, planning, and directing school programs of career choice with handicapped adolescents. Class activities will include community job surveys, work placement and work supervision. Prerequisite: 421-660.

421-662 CLASSROOM MANAGEMENT TECHNIQUES 3 Cr.

Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance the learning of pupils.

421-670 CONFERENCE LEADING 2 Cr.

Study of teaching. Study and practice of the principles and techniques of conference leading as an instructional device in vocational education. Prerequisite: 421-205 or equivalent.

421-679 PUBLIC RELATIONS 2 Cr.

Defines the public, objectives, and media of public relations in industry and education. Provides practice with such tools as news stories and features. Each student develops a simulated publicity program.

421-680 STUDENT TEACHING WITH HANDICAPPED YOUTH 8 Cr.

Directed teaching and community experiences in selected off-campus schools with normal and handicapped adolescents. Prerequisites: 421-662, 421-661.

421-681 AMERICAN HIGHER EDUCATION 2 Cr.

An introduction to the ramifications of the American system of higher education including history, philosophy, administration, curriculum, students, teachers, and demands for employment. Undergraduates by permission of the instructor only.

421-685 PSYCHOLOGY OF ADULT EDUCATION 2 Cr.

Offers a global view of the philosophy, purpose and practice in various programs of adult education and an examination of the characteristics of the adult learner plus a profile of his ego, intelligence, and development.

VOCATIONAL REHABILITATION**459-201 INTRODUCTION TO REHABILITATION 3 Cr.**

An introduction to serving handicapped and disadvantaged persons. Philosophy, history, techniques, careers of vocational rehabilitation.

459-202 COMMUNITY RESOURCES 3 Cr.

A review of community resources and their respective role in rehabilitation. Prerequisite: 459-201.

459-301 REHABILITATION PRACTICUM 2 Cr.

Actual exposure to disability groups, direct and extensive contact with people working in rehabilitation, and practical experience working in different types of agencies serving clients. Prerequisites: 459-201, 459-202.

459-400 REHABILITATION SEMINAR 1 Cr.

A study of the major current issues and problems confronting the field of vocational rehabilitation.

459-401 CASELOAD MANAGEMENT 2 Cr.

Study and application of the principles and techniques of caseload management as typically used in vocational rehabilitation agencies. Prerequisite: 459-202.

459-402 REHABILITATION FACILITIES ADMINISTRATION 3 Cr.

A survey of the principles and practices involved in the administration and management of rehabilitation facilities. Prerequisite: 459-202.

459-503 PHYSICAL DISABILITY AND WORK 3 Cr.

Etiology, diagnosis, treatment, prognosis, and vocational implications of physical disabilities.

459-505 COMMUNICATIONS WITH THE DEAF 3 Cr. Basic course in manual communication with the deaf. Overview, history, sociology, and psychology of the deaf, history of manual alphabet, finger spelling, basic manual vocabulary.

459-585 MENTAL RETARDATION 2 Cr. An introduction to the etiology of mental retardation; the psychological, educational, social, and vocational aspects; and adjustment techniques used in working with mentally retarded persons.

459-601 REHABILITATION METHODS I: EVALUATION 3 Cr. Review of techniques of assessing the vocational strengths and weaknesses of persons through the utilization of work as the tool for evaluation. Laboratory experience included. Prerequisites: 459-201, 459-202, 459-301.

459-602 REHABILITATION METHODS II: ADJUSTMENT 3 Cr. A study of the work adjustment and training, interviewing and counseling, job placement and follow-up process with handicapped and disadvantaged people. Prerequisites: 459-201, 459-202, 459-301, 459-601.

459-680 PRINCIPLES OF REHABILITATION COUNSELING 2 Cr. An introduction to the principles of rehabilitation counseling and their application to the total rehabilitation process. Emphasis is on the principles and the procedures practiced in the state-federal system of vocational rehabilitation.

459-x98 FIELD EXPERIENCE — VOCATIONAL REHABILITATION 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. Prerequisite: 459-201.

VOCATIONAL EDUCATION

469-534 TASK ANALYSIS 2 Cr. Study of analysis of activities for instructional purposes and for personnel work. Jobs operations, information topics, blocking, custom occupations, service occupations, checking level, progression factors defined.

469-560 COOPERATIVE OCCUPATIONAL EDUCATION PROGRAMS 2 Cr. Philosophy, organization, coordination and teaching techniques of cooperative education programs in the various vocational areas. Roles, responsibilities and duties of the cooperative teacher coordinator. Prerequisite: 469-602.

469-602 PRINCIPLES OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION 2 Cr. Philosophy, organization and administration of vocational and adult education in the nation with special attention given to the Wisconsin program.

469-608 ISSUES IN VOCATIONAL, TECHNICAL AND ADULT EDUCATION 2 Cr. An in-depth study of contemporary issues affecting vocational, technical and adult education. Possible solutions or alternatives will be proposed.

469-674 ADULT EDUCATION 2 Cr. Philosophy and history of adult education movement in the United States. Technique of teaching adults including psychological factors, methods, adult interests and characteristics.

PSYCHOLOGY

479-100 PSYCHOLOGY SEMINAR I — FOUNDATIONS 1 Cr. The first of a

continuing seminar will be a gathering of 15-20 students beginning their study of human behavior at Stout. Each member will present information and ideas from courses, from campus and world learning experiences. Each will assess, with the help of a qualified person, his own aptitudes, interests and characteristics comparing them with those needed in psychology. An individual program plan will be developed. The seminar will be repeated until all introductory psychology courses have been successfully completed and an acceptable program has been planned.

479-110 GENERAL PSYCHOLOGY 3 Cr. An introduction to the field of psychology as an academic discipline and as an applied human science. Primary emphasis is placed on the topics of scientific methodology in psychology, learning, perception, motivation, development, individual differences, mental health, cognitive behavior, the physiological basis for behavior, and on the applications of psychological principles to human experience.

479-120 PSYCHOLOGY: ITS HISTORY AND SYSTEMS 3 Cr. A comprehensive survey of the history of psychology and of the basic systems which have developed into modern American psychology. Treatment is given both to the philosophic development of psychology and to the evolution of psychology as a behavioral science. A major emphasis is placed on the development of psychology in the 19th and 20th Centuries in western Europe and the United States with the schools of thought: Structuralism, Functionalism, Behaviorism, Gestalt Psychology, and Dynamic Psychology receiving primary considerations. The state of modern psychology is considered and the contributions of a number of contemporary psychologists are examined.

479-150 MAN: A COURSE OF STUDY 3 Cr. The course will address the question of "Who am I?" from a contemporary horizon where concerns of psychology intersect biology, philosophy, sociology, anthropology, history, and religion. From there we move toward possible answers to man's perennial questions about himself and his future through readings and discussions of key works. The over-all objective of the course will be to help the student construct, for himself, a viable answer to the classical question "Why am I?"

479-190 PSYCHOLOGICAL METHODS I 3 Cr. This course introduces the student to research in the behavioral sciences. Observational, clinical, historical, correlational, descriptive, and experimental techniques are introduced and evaluated. Through the study of contemporary psychological research, the student gains evaluative principles which will enable him to be an intelligent research consumer.

479-251 CHILD PSYCHOLOGY 3 Cr. A study of the total psychological development of children emphasizing age groups spanning the pre-school and pre-pubescent child and methods for scientific measurement and understanding of child behavior. Prerequisite: 479-110.

479-260 PERSONALITY AND MENTAL HEALTH 3 Cr. An introduction to the areas of psychology which are concerned with the recognition of the positive principles of mental health and their application to human behavior. In addition, an examination is made of a variety of theories which are representative of the major views of leading thinkers on the subject of personality and personality development.

479-300 PSYCHOLOGY SEMINAR II 1 Cr. This will be the second-level seminar for the psychology program. The first level builds a foundation and helps students know whether or not psychology is for them. The second-level or "Synthesis" seminar is for those students who have decided definitely to complete the psychology program at Stout. It will provide a place for students and faculty to meet on a weekly basis to discuss topics of common interest arising from each person's total program. Prerequisite: 479-100.

479-390 EXPERIMENTAL PSYCHOLOGY 3 Cr. This course serves as an introduction to the methodology and content of experimental psychology. This course is built around the concept of behavioral objectives which are used for guiding the learning process, and evaluating that process. Upon successful completion of this course, the student will be capable of formulating a psychological problem, designing an experiment to investigate this problem, planning all aspects of the experimental process, conducting a well run experiment, analyzing and interpreting results and valuating the experiment. Prerequisite: 354-130.

479-530 PSYCHOLOGY OF LEARNING 3 Cr. A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized.

479-540 PSYCHOLOGY OF INDIVIDUAL AND GROUP DIFFERENCES 3 Cr. Nature and extent of differences in individuals and groups are studied. Intelligence, achievement, aptitudes, interests, attitudes, and general personality are the major differences included. Race, sex,

nationality, social class and age in relation to individual differences are studied.

479-552 ADOLESCENT PSYCHOLOGY 3 Cr. The physical, emotional, social, moral, and intellectual development of secondary school youth. Prerequisite: 479-110.

479-561 ABNORMAL PSYCHOLOGY 3 Cr. A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral.

479-562 PSYCHOLOGY OF THE EXCEPTIONAL CHILD 2 Cr. Guidance of the learning and development of children who deviate from the normal; the mentally retarded, gifted, socially and emotionally disturbed, and those with visual, speech and orthopedic problems.

479-571 THE PSYCHOLOGY OF MARRIAGE AND THE FAMILY 2 Cr. A study of the interpersonal relations involved in dating, mating, and family collaboration with growing awareness of patterns for self-integration.

479-581 INDUSTRIAL PSYCHOLOGY 2 Cr. A survey of the application of psychological principles of man's vocational pursuit. Emphasis is on individual differences and group behaviors which are involved in personnel selection, human factors engineering, industrial safety, motivation, personnel training, and consumer behavior. Course material is based primarily upon the latest behavioral science research in the field of industrial psychology. Prerequisite: 479-110.

479-582 PERSONNEL MANAGEMENT 3 Cr. Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation.

479-632 PERCEPTION 3 Cr. This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing.

479-690 PSYCHOLOGICAL MEASUREMENT 3 Cr. An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability, and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions.

479-x98 FIELD EXPERIENCE — PSYCHOLOGY 2 Cr. Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

LEARNING RESOURCES

107-504 ELEMENTARY PHOTOGRAPHY 2 Cr. Fundamentals of photography including aesthetics, basic theory, camera operation, film selection, lighting, roll film processing, contact printing, enlarging and print finishing. Student must provide his own camera.

107-605 ADVANCED PHOTOGRAPHY 2 Cr. Advanced monochromatic photography including aesthetics, advanced theory, view camera techniques, studio lighting, selection of photographic materials and equipment, sheet film processing, specialized processes and techniques. Prerequisite: 107-504.

107-645 COLOR PHOTOGRAPHY 2 Cr. Aesthetics, color theory, film selection, lighting, copy techniques, slide duplication, reversal and negative color film processing, and color printing. Prerequisite: 107-504.

407-535 FILM: HISTORY AND APPRECIATION 3 Cr. Traces the evolution of the motion picture film as a medium of mass communication and aesthetic expression; contributions of noted film producers are identified.

407-560 AUDIO-VISUAL COMMUNICATION 2 Cr. Methods of evaluating and using audio-visual materials effectively in teaching. Experience in operating equipment; basic techniques of media preparation.

407-561 PREPARATION OF AUDIO-VISUAL MATERIALS 2 Cr. Planning, designing and producing bulletin, felt, hook-and-loop, and slide/tape presentations; charts, graphs, posters, models, mock-ups, transparencies; mounting, laminating and display techniques. Prerequisite: 407-560.

407-593 TELEVISION PRODUCTION TECHNIQUES 3 Cr. Production of television programs in cooperation with students in 391-554. Each student will gain experience as director, technical director, cameraman, floor manager, audio controlman, telecine operator, and lighting director. Includes related technical information.

407-630 FILM/TAPE PRODUCTION FUNDAMENTALS 3 Cr. Instructional film, audio tape, and videotape production fundamentals. Designed for Audio-Visual Communication major generalists. Should *not* be taken by those planning to take 391-554, 407-593, or 407-636.

407-636 FUNDAMENTALS OF MOTION PICTURE PRODUCTION 3 Cr. Fundamentals of Super 8 mm. and 16 mm. film production. Production planning, cost estimating, visual continuity, shooting, animation, editing, sound recording, titling, laboratory

services, and other technical problems of production. Individual and group projects.

407-694 INSTRUCTIONAL COMMUNICATIONS SYSTEMS 2 Cr. Application of electronic communications systems used to solve educational problems. Audio systems including microphones, tape decks and duplicators, language labs and intercommunication equipment; multimedia systems including information retrieval, multiple response, and simulators. Prerequisite: 407-560.

SPECIAL COURSES

500-500 FUTURE ALTERNATIVES 3 Cr. Introduction to various methods of future prediction, thereby orienting his thinking towards future alternatives. In addition various major areas of human activity will be examined in order to study the major future problems they will face and the impact these problems will have on the student's lifetime.

500-555 SOLVING PROBLEMS 2 Cr. Transdisciplinary problem solving through acquaintance with and practice in the use of systematic approaches to real problems.

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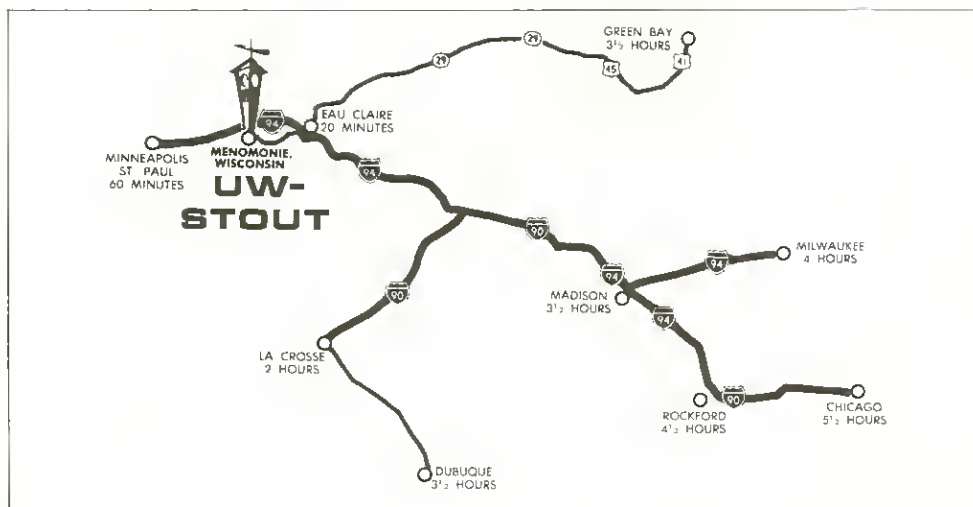
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